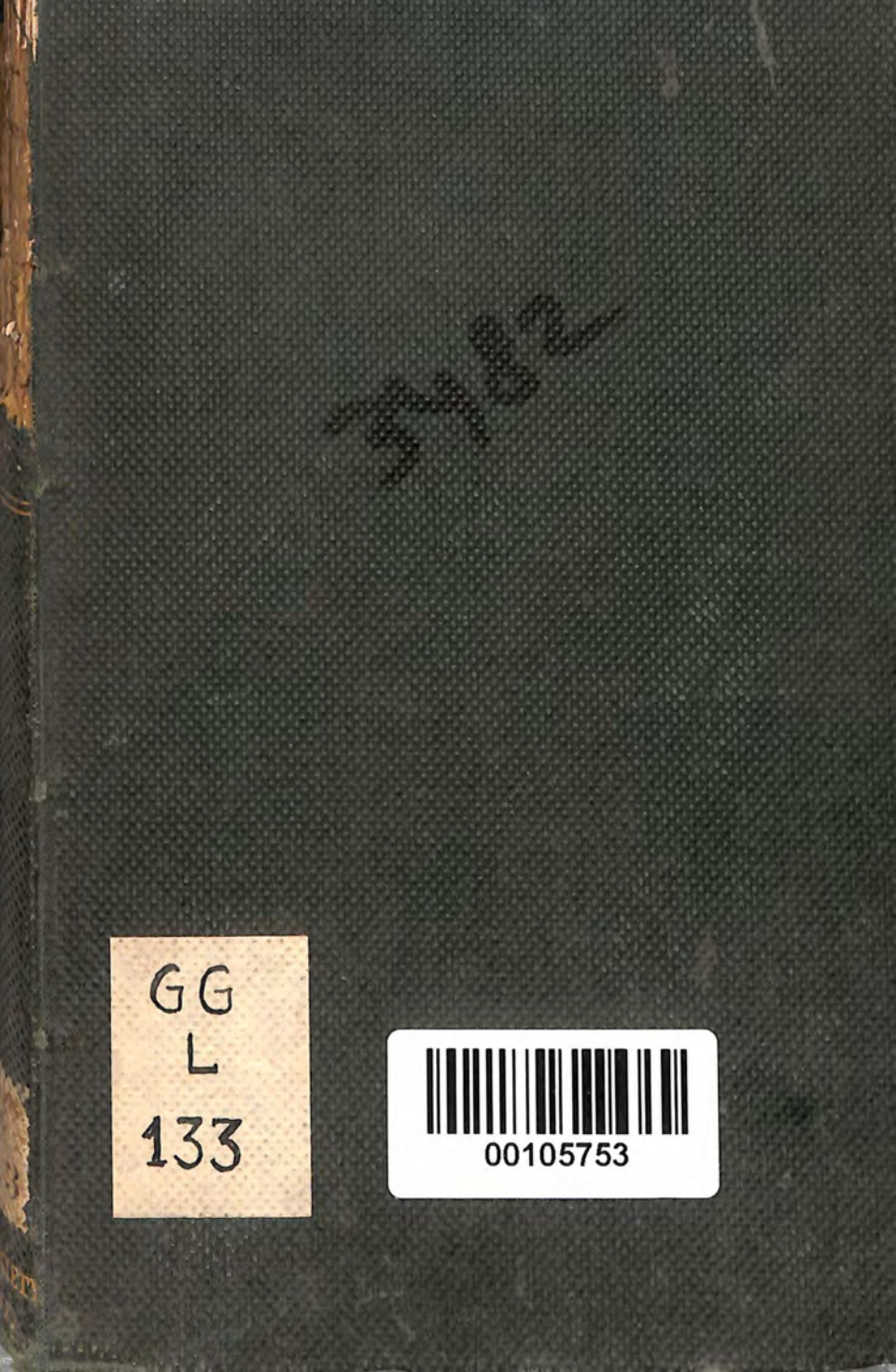
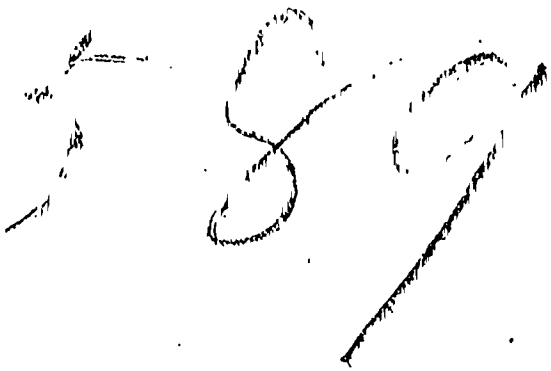

GG
L
133

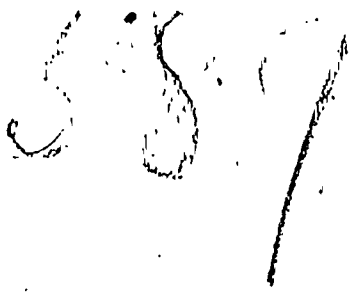
00105753

GEOGRAPHICAL SOCIETY
OF BOMBAY.

.....18.....

Digitized with financial assistance from the
Government of Maharashtra
on 02 January, 2016





# REPORT

OF THE

# BOARD OF EDUCATION

FOR

105753

THE YEAR 1849.

No. VIII.

Bombay:

PRINTED AT THE

BOMBAY EDUCATION SOCIETY'S PRESS.

1851.

God
370
Rep
105755

# CONTENTS.


| PARAS. | | PAGE |
|---|---|---|
| 2. | Changes at the Board ... ... ... ... | 1 |
| 3. | Subjects treated of in the Report ... ... ... | ib. |
| 4. | Arrangement of the Report... ... ... ... | ib. |
| | ELPHINSTONE INSTITUTION. | |
| 5. | Return of Principal Harkness to Europe ... ... | 2 |
| 6. | Necessity for enlarged accommodation ... ... | ib. |
| 7. | Nomination of Mr. Green as Acting Principal ... | ib. |
| 8. | Professors and English Masters ... ... ... | 3 |
| 9. | Number of Students... ... ... ... ... | ib. |
| 10. | Course of Study ... ... ... ... ... | ib. |
| 12. | Extracts from a Report by the Acting Principal ... | ib. |
| 15. | Names of the First Normal Scholars ... ... | 7 |
| 16. | Scholarships ... ... ... ... ... ... | ib. |
| 17. | Selections from Scholarship papers ... .. ... | 8 |
| 18. | Fees ... .. ... ... ... ... ... | ib. |
| | MOFUSSIL ENGLISH SCHOOLS. | |
| 20. | Number of these, and abolition of the one at Tanna. | 9 |
| 23. | Poona English School ... ... ... ... | 10 |
| 25. | Ahmednuggur ditto ... ... ... ... ... | 12 |
| 26. | Surat ditto ... ... .. ... ... | ib. |
| 30. | Ahmedabad ditto .. ... ... ... ... | 15 |
| 31. | Broach ditto ... ... ... ... ... | ib. |
| 32. | Rutnagherry ditto ... ... ... ... ... | ib. |
| 33. | Dharwar ditto ... ... ... ... ... | 16 |
| | GOVERNMENT VERNACULAR SCHOOLS. | |
| 34. | Schools at the Presidency ... ... ... ... | 17 |
| 38. | Ditto in the Districts .. ... ... ... | 18 |

PARAS. PAGE

39. First Division of Schools in the Districts .... ... 19
51. Second Division of ditto ... ... ... ... 23
56. Third Division of ditto ... ... ... ... 25

---

62. Amount of attention paid to Vernacular Education. 28
63. Poona Sanskrit College ... ... ... ... 34
71. Grant Medical College .. ... .. ... 38
80. Book Depositories ... ... ... ... .. 41
81. Works printed in Bombay during 1849. ... ... 42
82. Do. remaining in the Press ... .. .... ib.
83. Do. lithographed in the Poona College ... ... ib.
84. Do. remaining in the Press ... .. .. 43
85. Revision of Vernacular publications .. ... ib.
86. Assistance in the work of translation by Colonel Jervis, Major Candy, Mr. Green, and the German Missionaries ... ... ... ... ib.
90. Vernacular Societies of the Deccan and Gujerat ... 44
91. Conclusion of Report .. ... ... ... 45

## APPENDICES TO THE REPORT.

No. I. Scholarship Examination papers ... ... 49
No. II. Minute by Dr. McLennan relative to the Grant Medical College .. ... ... ... 63
No. III. Minute by the Hon'ble Sir E. Perry on the state and prospects of Education in Bombay. 69
No. IV. Statement of Fees received during 1849. ... 96
No. V. Statement of Accounts for 1849 .. ... 97
No. VI. Statement of Book Depositories for 1849 ... 102
No. VII. Letter from Government in reply to the Report .. .. .. .. ... 104
No. VIII. Report of Grant Medical College for 1848-9... 109

To The Right Honorable

LORD VISCOUNT FALKLAND,

&c. &c. &c.,

*Governor and President in Council,*

Bombay.

My Lord,

We have the honor to lay before you a Report of our proceedings for the year 1849.

Changes at the Board.

2. We may commence by mentioning the several changes which have occurred at the Board during the year, and the loss of two very valuable members in the persons of Colonel Jervis and Dr. Burnes. Captain S. V. W. Hart and Mr. Warden were appointed to fill the vacancies thus created.

Subjects treated of in the Report.

3. Having, on former occasions, dwelt at some length upon the ends proposed to be carried out through our instrumentality and upon the means within our reach for effecting them, and having in our last Report, in particular, submitted our views on the important subject of the medium through which instruction should be conveyed, we propose on the present occasion to confine our remarks to a detail of the state of the different institutions entrusted to our charge.

Arrangement of the Report.

4. For this purpose we propose to arrange our Report under the following heads:—

I. Elphinstone Institution.
II. Mofussil English Schools.
III. Government Vernacular Schools at the Presidency.
IV. District Vernacular Schools.
V. Poona Sanskrit College.
VI. Grant Medical College.
VII. Book Depositories.
VIII. Appendix.

# I.

## ELPHINSTONE INSTITUTION.

Return of Principal Harkness to Europe.

5. In May the Institution was deprived of the services of Mr. Harkness, the Principal, who, in consequence of impaired health, was compelled to return to Europe. For many years Mr. Harkness had devoted his whole time, energies, and talents for the benefit of this Institution. As one of our original Professors, he had mainly assisted in creating around us an annually increasing body of educated youths in an Institution which has probably outrun the hopes and expectations of its earlier friends, not less in the scale of its operations, than in the character of its results.

Necessity for enlarged accommodation.

6. Twenty-five years ago the Institution contained only forty-six pupils in the English Department, while at the present moment the number consists of upwards of nine hundred, and we have been compelled, from want of accommodation, to close the door against further admissions. This induces us once more to draw your Lordship's attention to the urgent necessity of adopting some plan for the erection of a new building. We refrain from saying more on this subject, because your Hon'ble Board have admitted the necessity for enlarged accommodation, and we feel certain that this acknowledged existence of a pressing want must lead to the adoption of some plan which will secure the object we have in view.

Nomination of Mr. Green as Acting Principal.

7. On the departure of Mr. Harkness, we nominated, as Acting Principal, Mr. Green, a gentleman whose name has more than once been specially brought to the favorable notice of Government.

8. Throughout the year the Mathematical Department has been under the management of Professor Patton, the Department of Literature under Mr. Harkness and Mr. Green successively, and that of Chemistry and Botany under Dr. Giraud, the Professor of Chemistry in the Grant Medical College. The Institution has further had the benefit of the services of Messrs. Reid, Graham, and Draper, as English Masters.

Professors and English Masters.

9. At the close of the year the Institution contained 916 pupils, in three great divisions, viz. a Lower School of 705 boys, an Upper School of 160 boys, and a College Department containing 51 students. At the close of the preceding year the total number was 859.

Number of students.

10. In the Lower School the pupils are taught the English language, and, through the medium of their several languages, arithmetic, geography, and history. In the Upper School more extensive general knowledge is imparted, through the medium chiefly of English; and in the College Department the students are engaged in a course of study about equal in extent to a course for a degree in an English University.

Course of study.

11. We have received an able Report from Mr. Green on the general progress of education in the Institution, as well as on the particular acquirements of each class, and we have reason to believe there are abundant indications of satisfactory progress in every branch, particularly in the College Department.

12. Mr. Green, in his Report, gives an outline of the progress, step by step, which is made by a boy from the time of entering the Institution to that of leaving it, and at the same time a clear view of the nature and extent of his attainments. We think the subject sufficiently interesting to induce us to make the following extracts:—

Extracts from a Report by the Acting Principal.

"A boy of fair ability, entering the lowest class, will take from four to six years to pass through both schools, and to acquire the qualifications demanded from a candidate for entrance into the College.

"Should he at this period fail to procure a stipendiary scholarship, he probably leaves the Institution; the cases are as yet but few in which the children of the richer classes continue their studies beyond this; and a most important question suggests itself at his leaving, viz.: Has he received an education which can in any way be considered complete and useful in itself? Has he either the knowledge, or the means and the incitements to the attainment of the knowledge, which will enable him to become in any shape what alone we can desire to make him, and what it is clearly our most sacred duty to give him every facility for becoming,—an educator himself among his less happily-situated countrymen? Or does he leave with merely the foundations laid of a superstructure which he is never likely to complete?

"His acquirements at this period, and the facilities with which he has been furnished for making future acquisitions, may be very briefly stated. He is able to understand, for the most part, any easy English book, possesses a good general knowledge of geography, and a considerable amount of history. He has also been carefully taught several of the best books in his vernacular language, and, if a Hindu, has acquired some knowledge of the rudiments of Sanskrit,—whatever knowledge can be given to him in three lessons a week during the last two or three years which he spends in the school,—and, in addition to all this, he has gone through a course of popular physics, and has been taken in the mathematics as far as quadratic equations in algebra, and through six books of Euclid.

"This is evidently a first-rate *school* education; and it will be found in general that, together with this, he has also acquired a very high opinion of the civilization, the arts, and

the learning of Europe, and is well prepared and eager to receive any useful novelty which can be rendered intelligible to him.

"We might then, but for one circumstance to be immediately mentioned, be content to see the great mass of our pupils leave us at this period, to finish each his own education in perhaps the most valuable of all schools, that of practical life. We are compelled, however, to remember that after all these years of study, the pupil, for any purposes of future self-education, is really still without a language. His vernacular tongue, with which he is tolerably well acquainted, contains almost nothing worth his reading, and English is so difficult to an Asiatic that he is still unable to study in it without assistance, and unlikely to acquire the habit of reading for general information.

"The extreme facility in English which this implies would require several years more devoted to *mere language;* and it is evidently as desirable, as it is perfectly practicable, to combine with this a much larger amount of acquirement and of mental training. The student, therefore, who at this period competes successfully for a stipendiary scholarship, or, failing to do so, can show that he is sufficiently advanced to join with profit to himself the higher course of education, which we have yet to notice, enters *the College Department,* and commences a four years' course in the following branches, viz. *History* and *English Literature,* in which he becomes familiar with such writers as Hume, Heeren, Hallam, Guizot, and Macaulay, and in which he is introduced to some of the best of our modern poets;—*Mental and Moral Philosophy,* commencing with Archbishop Whateley's admirable elementary treatise, 'The easy Lessons on Reasoning,' and proceeding to an acquaintance with Stewart, and with the inductive logic of Mill;—*Political Economy,* commencing with an elementary treatise, and terminating with the most perfect work which has yet been produced in that

science, 'Mill's Principles';—an extensive course of *Mathematics and Physics*;—and one of the natural sciences, comprising *Chemistry and Botany*."

13. We may remark that Mr. Green has followed up these observations by a plan, which is at this moment under the consideration of the Board, for extending a higher education to the sons of the richer classes of Natives, who may be unequal to the high test on which boys are now advanced to the College.

14. In the Mathematical Department there is reported to have been a very great improvement during the year: more attention has been paid to arithmetic as a science, and the knowledge of geometry and algebra has been considerably extended. In the College Department the classes are formed in June, and are divided into four. We will extract from Professor Patton's Report the following statement of the number of students in each class, the course of study, and the amount of attainments:—

"*First Year's Class.*—This class, containing twenty-five, has studied the six books of Euclid, with a large number of deductions, the theoretical part of DeMorgan's Algebra, and some of Young's Theory of Equations. Many show a considerable taste for mathematics, and the general progress of the class has been fair. They are now quite able to begin plane and spherical trigonometry, with its application to surveying and astronomy.

"*Second Year's Class, nineteen Students.*—This class has studied Waud's Algebraic Geometry, as far as the discussion of the general equation of the second order, with the examples, and the improved method of working in Salmon's treatise on the same subject. They are now commencing the differential and integral calculus, after which they will be prepared for the study of any mechanical question. At the examination I was very much pleased with the answer-

ing generally, although I cannot say that there has been much inventive talent displayed.

"*Third Year's Students.*—This class, containing twelve, has studied carefully the whole of statics and part of dynamics in Young's Treatise on Mechanics, and their answering at the examination was very respectable. Compared with the class in the same business last year, the progress has been very rapid, owing to the greater amount of mathematical knowledge.

"*Fourth Year's Students.*—In the other classes, I think it necessary to follow a strict and well-defined plan, as much for the sake of the mental training of the pupils as for imparting knowledge in an accurate manner; but in this class the students are prepared for the study of any scientific subject, and I leave the choice of the branch chiefly to themselves. During the past year we have been engaged in the study of prime and ultimate ratios, steam-engines, railroads, physical astronomy, plane astronomy, and the electric telegraph."

15. As some proof that the College division of the Institution is in a satisfactory state, we may mention the gratifying fact, that at the last scholarship examination, the three normal scholarships of the highest class were all successfully competed for. As this scholarship is the highest academical distinction which can be attained at the Institution, we think it right to subjoin the names of the successful candidates in the order of merit:—

Names of the first Normal Scholars.

1. Jahangir Burjorji.
2. Nowrozji Nanabhoy.
3. Cowasjee Edulji.

16. With respect to the endowments generally, we are happy in being able to state that our scholarships, under the different denominations of Normal, West, and Clare, were all filled up

Scholarships.

at the close of the year, with the exception of four of the lowest class. They are 46 in number, and vary in value from Rupees 30 a month to Rupees 10.

Selections from Scholarship papers.

17. In the Appendix No. I. will be found a list of questions on the history of modern Europe, and another list of questions on political economy, proposed at the last scholarship examination, with the answers of two students as specimens, and also two essays. We have not been in the habit of appending to our Reports selections of this nature, fearing, on the one hand, that the productions of mere schoolboys would be passed over as without interest, and on the other hand, that the act of publication might engender notions of conceit and self-sufficiency, which it is the object of all sound education to repress. But it has been justly observed, that an occasional departure from this practice might be beneficial, as thereby the friends of education in different parts of India might be able to test the proficiency which the best educated of our Native youth in Bombay have attained, and not only so, but that it may be likewise known to those who are entrusted in England with the training of youths whose destiny it is to preside over the different departments of the administration of British India, the position that their future subordinates have reached in mental exercise and acquirements. It is also due to the Professors and other gentlemen who are engaged in the work of tuition at the Institution, to show the results. We ought to add that the two essays were written in less than three hours, in the library of the Institution, without any reference to books, and on subjects of which the students had no previous notice.

Fees.

18. As some evidence of the healthy working of the Institution, we may mention that the number of fee-payers continues to increase. The amount of fees received during the year was Rupees 6,582. During the preceding year the amount was Rupees 6,365.

19. We stated in our last Report, that, in consequence of a desire which existed among the students to acquire the art of drawing, we had availed ourselves of the services, for a year, of Mr. Fallon. The formation of the class, however, was considered quite experimental; and on the expiration of the twelvemonth, in October last, we considered it advisable to break it up, the degree of talent exhibited by the students not being sufficient to justify the expense.

## II.

## MOFUSSIL ENGLISH SCHOOLS.

20. The English Schools in the Mofussil are seven in number, viz. at Poona, Ahmednuggur, Surat, Ahmedabad, Broach, Rutnagherry, and Dharwar: the one at Tanna was abolished in July. Your Lordship in Council is aware that the condition of this school had for a long period been very unsatisfactory. As far back as 1845, Professor Harkness, after a close examination of the school, made a most unfavorable report, in the course of which he stated his opinion that an English school would never flourish in that locality. It was attended only by the children of the inhabitants of Tanna itself, the boys from the vernacular schools in the Northern Konkan preferring to come to Bombay. Partly in consequence of the nature of this report, and partly owing to the fact that the progress of the school had, for upwards of twenty years, been very unsatisfactory, we decided on closing it. Shortly afterwards, however, the School Committee made an earnest appeal to have it re-opened, and, in deference to the wishes expressed, we decided on meeting the views of the Committee, to the extent of giving a trial under different management. We therefore placed it under the charge of Nanabhoy Morojee, one of the *alumni* of the Elphinstone Institution. We

Number of these, and abolition of the one at Tanna.

at the same time intimated to the Committee that unless a marked improvement took place in the character of the school, we should consider it an imperative duty finally to close it, pointing out that it would be prejudicial to the true interests of education to maintain a school at any Station where its progress was not sufficiently satisfactory to afford a sure proof, both of habits of successful application among the pupils, and of interest being taken in its welfare by the inhabitants.

21. After some months, Nanabhoy resigned the appointment, and Ramchundra Balcrishna, who had conducted the English school at Rutnagherry to our perfect satisfaction, was nominated his successor. The state of matters, however, did not much improve, and eventually it became apparent that the master's best exertions had failed in maintaining its efficiency. Believing, therefore, that we were uselessly wasting our resources in permitting the continuance of a school under such circumstances, we closed it in July.

22. In October the inhabitants made another appeal to have it re-opened, and we stated our readiness once more to meet their views, provided they showed their sincerity in the cause by engaging to pay Rs. (50) fifty a month towards the master's salary. This they have stated their inability to perform. After full consideration, however, of all the circumstances now briefly related, we thought it right to adhere to our decision.

POONA ENGLISH SCHOOL.

Master..... The Rev. James McDougall.
Assist. Master..... Ràghunath Jaganath.
Pupils ..... 112.

23. This school, our oldest now in existence, was established in 1833, and was long under the management of Mr. Eisdale. Since June 1848 it has been under the present master. It was our intention to have deputed an

Elphinstone Professor to have examined this school during the year, but circumstances prevented our doing so. The usual annual public examination, however, was held in December, and Brigadier Wilson, K. H., and Major Candy, members of the School Committee, were present. The several classes were examined in their different branches of study, viz. in English, grammar, history, geography, arithmetic, and pure and mixed mathematics, and they appear to have given much satisfaction, especially in the mathematical department. At the close of the examination, several very creditable essays, written by the senior pupils, were read.

24. The school is divided into seven classes, and the following is the syllabus of studies which were pursued during the year :—

1*st Class.*—Shakespeare, Clift's Political Economy, writing, plane and analytical trigonometry, spherical geometry, conic sections, parabola, and elipse.

2*nd Class.*—McCulloch's Elementary Course of Reading, all the problems of the terrestrial globe, principles of astronomy, translation from and into English, writing, first four books of Euclid, algebra as far as quadratic equations.

3*rd Class.*—Chambers' History of England, as far as the reign of Queen Elizabeth, History of the Maharattas, grammar, Latin and Greek roots, general geography of the world, translation from and into English, writing, first book of Euclid, algebra, simple equations.

4*th Class.*—Reading and translation from Moral Class Book, grammar, geography of Asia and Europe, writing from dictation, Latin roots, writing, the whole of decimal fractions, and algebra as far as division.

5*th Class.*—Reading and translation from McCulloch's Series of Lessons, principles of geography, rules of Syntax, prefixes and affixes, writing, the whole of vulgar fractions, and mental arithmetic.

*6th Class.*—McCulloch's 3rd Reading Book, reading and translation, grammar, writing, simple and compound proportions, and mental arithmetic.

*7th Class, Senior Division.*—Reading and translation from McCulloch's 2nd Reading Book, writing, and simple division.

*Junior Division.*—Reading and translation from McCulloch's 1st Reading Book, writing, and simple division.

AHMEDNUGGUR ENGLISH SCHOOL.

Master..... Mr. A. J. DeSilva.
Pupils..... 45.

25. This school, as we stated in our last Report, was opened in March 1848. It was examined by the Superintendent in May last, and, considering the short period it had been in existence, he felt quite satisfied with its state and progress. The first class had read and translated McCulloch's Series of Lessons as far as page 59. In arithmetic, grammar, and geography they evinced a fair proficiency. The boys of the second class also read well in McCulloch's 3rd Reading Book; and though most of them had begun their alphabet in this school, they passed a very satisfactory examination. The school house is a new building, conveniently situated in the heart of the town.

SURAT ENGLISH SCHOOL.

Master ..... Mr. Graham.
Second Master ..... Mr. Curtis.
Assistant Master .... Motiram Narbhairam.
Pupils..... 273.

26. This school was established in 1842, and was placed under the management of Mr. Green as head master in 1843, and continued so till August last, when, in consequence of the departure of Mr. Harkness, Principal of the Elphinstone Institution, we selected Mr. Green to fill the

temporary vacancy. Mr. Curtis, the second master, conducted the chief duties of the school for the remainder of the year until our appointment of Mr. Graham to the mastership, this gentleman having passed a very satisfactory examination in Maharatha. He has since then also passed an examination in Gujerati.

27. We have on former occasions pointed out the great increase which took place in the number of pupils while the school was under the management of Mr. Green, and mentioned our entire satisfaction at the result of his labours. The school increased from 58 pupils at the end of 1843 to 292 when Mr. Green left Surat. We have only to express our hope that the school will continue to prosper under its new superintendence.

28. Circumstances having prevented a professorial examination during the year, we requested the School Committee in January last to do us the favor of examining it, and this they most kindly undertook. There were 214 boys present at the examination, and Mr. Andrews, the President of the Committee, expressed himself much pleased with the manner in which many of them acquitted themselves. The school is divided into eight classes. The two highest had been more immediately under the personal teaching of Mr. Curtis, and Motiram Narbhairam, the assistant master, respectively. The following extract from the report of the examination will give the particulars of the acquirements of the pupils in these two classes :—

"The second class, taught by Motiram Narbhairam, passed a very creditable examination in exemplary biography, History of India, English grammar, and geography, particularly the geography of India. Two or three of the best boys pointed out the constructions, and parsed many rather difficult sentences, which they could not have done had not their attention been previously much directed to the subject. In mathematics this class is formed into two divisions. The

1st division consists of 9 boys, who have read the whole of Hutton's Theorems, to the end of quadratic equations in algebra, and part 1st of Young's Trigonometry. Two boys answered remarkably well, and they all seem to be well grounded in the elementary principles. The 2nd division consists of about thirty boys, who were examined in the 1st 65 theorems of Hutton, and algebra as far as quadratic equations. The answering here was of a lower character than in the 1st division; however, a few came off with considerable credit. The first class, taught by Mr. Curtis, was examined in Taylor's Ancient History, a portion of Herschell's Natural Philosophy, general history, grammar, ancient and modern geography. The boys at the head of the class, consisting of the monitors and a few others, are quite conversant with most of the important events of Grecian and Roman history. Some of them answered many difficult questions on these subjects with great precision and accuracy, and acquitted themselves respectably in general history. Rather more than one half of the class appear to be well grounded in the principles of grammar and geography. This class, like the second, is formed into two divisions in mathematics. The second division was examined in Hutton's Geometry, simple and quadratic equations, and part 1st of Young's Trigonometry. The answering of this division was about equal to that of the 1st division of the 2nd class. The 1st division passed an examination in plane geometry, simple and quadratic equations, plane and spherical trigonometry, conic sections (geometrically), and differential calculus, to the end of maxima and minima. The answering in spherical trigonometry, conic sections, and differential calculus was creditable; in geometry and algebra somewhat inferior."

29. We are happy in being able to state that one boy from this school competed successfully for a junior scholarship at our last scholarship examination.

AHMEDABAD ENGLISH SCHOOL.

Master ..... Bhogilal Pranwalabdas.
Assistant Master.. Mahadeorow Nursing.
Pupils..... 99.

30. This school was opened in 1846, and has since continued under the same master. It was examined by Mr. Green, the Superintendent, in the early part of the year. The school is divided into six classes. The state of the school generally, and the acquirements of the highest class in particular, were considered highly creditable to the master's teaching. After going through the subjects taught in the lower classes, the boys in the highest class had gone through the geographical primer, the histories of England and India, and were acquainted with the use of the globes. They had also acquired a knowledge of mensuration, of the use of logarithms, and some trigonometry, and had gone through the first four and sixth books of Euclid, quadratic equations, and sixty-five propositions in Hutton.

BROACH ENGLISH SCHOOL.

Master ..... Kavasji Edalji.
Pupils ..... 57.

31. This school was opened in March last, at the earnest request of the inhabitants, who had evinced their sincere desire for the establishment of an English school by subscribing a sum of two thousand Rupees towards defraying the expense of building a school-house. We nominated as master Kavasji Edalji, who had gained much experience, and had given satisfaction during the one and half year he had been assistant master at the English school at Poona. Commenced under favorable auspices, and at the express desire of the inhabitants, we trust we shall be enabled to speak favorably of its progress in our next Report.

RUTNAGHERRY ENGLISH SCHOOL.

Master..... Ramchundra Dinanathji.
Pupils ..... 37.

32. This school was established in 1845. As it had not been submitted to professorial examination during the year, we requested the School Committee, in January last, to do us the favor of examining it. This they very kindly undertook, and the following Report, communicated by Dr. Maitland, the Secretary of the Committee, appears to us very satisfactory:—

"After a searching examination of some hours, commencing with the first class, the Committee are happy in being able to bring to the notice of the Board the very creditable manner in which the boys of all classes conducted themselves.

"The first class was composed of only 2 boys, the others having only a short time previously gone to Bombay to enter themselves as scholars at the Elphinstone Institution. These two boys, during their examination, showed that they possessed a good knowledge of English and Maharatha history, geography, and cyphering.

"In the second class there were 10 boys. The English reading of this class was observed by the Committee to be very good, and the manner in which each boy performed his part showed that they perfectly understood what they read. They were also fully prepared to answer all the questions put them relative to the grammatical construction of the different sentences. This class, as also the first, exhibited a fair knowledge of the first book of Euclid, and algebra as far as cubic root.

"The other classes were had up in succession, and all, according to their standing, passed an excellent examination in reading, English grammar, and arithmetic."

DHARWAR ENGLISH SCHOOL.

Master..... Mr. F. P. Baker.
Assist. Master..... Succaram Balcrishna.
Pupils ..... 45.

33. This school, as we stated in our last Report, was opened in May 1848. It was examined by the School Committee in August last. The school is divided into three classes. The first class was examined in writing from dictation, in the derivations and roots of English words, in grammar and parsing, in geography, arithmetic, and writing. The second class was examined in English reading, translation from English into Mahràhti, English grammar and parsing, and arithmetic. The third class was examined in English reading, translation of English into Mahràhti, and English grammar. Considering the short period the school had been in existence, the result of the examination was as satisfactory as could have been expected.

## III.

## GOVERNMENT VERNACULAR SCHOOLS AT THE PRESIDENCY.

34. These schools are 7 in number. They are attended by 733 boys, and of this number 652 pay the monthly fee; 4 of these schools are Mahràhti, 2 Gujerati, and one Hindustani.

35. These schools are under the superintendence of Mr. Green, who has favored us with a Report on their condition. He regards them, on the whole, as the best vernacular schools he has seen, and he attributes this to the greater number of masters employed, and to the vicinity of the Elphinstone Institution, from which so much stray information and so many new ideas must necessarily find their way into the schools.

36. The Mahràhti schools are as usual the best. The Hindustani one is the worst. The Inspector of these schools, Gungadhar Shastri, has lately been giving lessons in Sanskrit for two hours a day in the Elphinstone Institution, with great effect.

37. Mr. Green takes an opportunity of alluding to what we have ourselves observed for some years past, viz. the

fact that there exists in Bombay scarcely any genuine demand for education in our vernacular schools. These schools find pupils merely because we insist on a certain proficiency in the native tongues as a qualification for admittance into the Elphinstone Institution. We have only to relax a little on this point to shut up most of our vernacular schools at once. To this previous vernacular teaching the Parsees submit with the greatest reluctance, and the Hindus with nearly as much. The people demand English rather than their vernacular languages, because the former is becoming the common language of Bombay, and thus affords a more ready means to the poorer classes of obtaining a livelihood; but unless the youths know their own language well, they will be incapable of receiving a sound education in a foreign one. At present they can obtain what they wish for in three ways: 1st, at the various excellent missionary schools, gratuitously; 2dly, at the different private schools, at rates varying from two Rupees a month upwards; and 3rdly, at the Elphinstone Institution, at a Rupee a month; but they must here submit to the entrance examination in their vernacular tongue, to a course of vernacular instruction along with English, and also to such additional instruction and mental training as we consider necessary for constituting a good education. The time is approaching, we believe, when the aid of Government might safely be dispensed with in imparting what is strictly called primary instruction at the Presidency; for such is the eagerness for admission into English schools, that the amount of preparatory instruction required for that purpose would ensure its acquirement by private enterprise.

## IV.

## VERNACULAR SCHOOLS IN THE DISTRICTS.

38. These schools are arranged as before in three Divisions. The first Division comprises the schools in the

Collectorates of Poona, Ahmednuggur, Candeish, and Sholapoor; the second includes the schools in the Collectorates of Ahmedabad, Kaira, Broach, and Surat; and the third Division those in the Collectorates of Tanna, Rutnagherry, Belgaum, and Dharwar.

### First Division.

39. We stated in our last Report, that in consequence of Lieut. Gordon being ordered to join his Regiment, Dadoba Pandurang had been directed to perform the duties of Superintendent. Lieut. Gordon has since gone to Europe on sick certificate, and Dadoba Pandurang continues in charge of the Division.

40. In October last we received a carefully prepared and able Report from the Superintendent, who visited most of the schools in this Division.

41. At the date of the Report there were

| | | | | | |
|---|---|---|---|---|---|
| 22 | schools, | and | 1,113 | boys in the | Poona Collectorate. |
| 29 | do. | and | 1,645 | do. | Ahmednuggur do. |
| 14 | do. | and | 636 | do. | Sholapoor do. |
| 9 | do. | and | 504 | do. | Candeish do. |

making a total of 74 schools, and 3,898 pupils in this Division, independent of 55 village schools and 1,224 pupils in the Poorunder Districts of the Poona Collectorate.

42. Seven new schools were established during the earlier part of the year, viz. at Chakan, in the Poona Collectorate; at Korahle, in the Ahmednuggur Collectorate; at Savade, Naumpoor, Betàwad, and Zaikhaira, in the Candeish Collectorate; and at Vairag, in the Sholapoor Collectorate. But by May it became evident that the state of the funds entrusted to our charge would not bear the expense of establishing more schools, and we were reluctantly compelled to make this known.

43. The amount collected from the Anna fee in this Di-

vision, from June 1st 1848 to May 31st 1849, was Rupees 5,918.

44. The general result of the examinations was fully equal to that of the preceding year, and the returns show a considerable increase in the number of pupils.

45. The best school in the Division, both as regards the character of the master and the acquirements of the pupils, is the school No. 4 at Poona. It continues under the management of Wishnu Sàdashiva, who has more than once been mentioned in our Reports as one of our most able teachers. The discipline and efficiency of his school are alike commendable. Other schools are larger, for this contains only 111 pupils, of which number 105 were present at the examination. The school is divided into six classes. Besides the usual routine of instruction in reading, writing, grammar, geography, and arithmetic, in which the first four classes passed a very satisfactory examination, this school added the elements of natural philosophy, the history of England, and trigonometry, in which the boys in the first class displayed a fair proficiency.

46. The other schools which give the most satisfaction are those at Poona (the one No. 3), and Khed, in the Poona Collectorate; at Nassick, Sungumnair, Akoleh, and Puntambe, in the Ahmednuggur Collectorate; and at Erundole and Dhoolia, in the Candeish Collectorate; the one last named is second only to the school No. 4 at Poona. The master, Balcrishna Trimback, bears the character of being an intelligent, industrious, efficient teacher. The school contains 147 boys, divided into ten classes. The upper classes acquitted themselves most satisfactorily in grammar, geography, history, and mathematics, in which last subject they appear to have made very considerable progress, and five of the pupils had gone through quadratic equations, and ninety-five propositions in Hutton.

47. In point of numbers there is no school equal to that at Nassick. It contains no less than 220 boys, and 201 of these were present at the examination. The general progress of the school was satisfactory. The acquirements in geography, history, arithmetic, algebra, and geometry, were creditable both to the master and the pupils.

48. After mentioning some of our best schools in this Division, we must now name some of our worst. These are the schools at Tullegaom, in the Poona Collectorate; at Youli, Rawooree, Parnair, Nimon, Niphar, and Kopergaom, in the Ahmednuggur Collectorate; and at Jamnair, in the Candeish Collectorate. In all these schools the masters are deficient in most of the qualifications requisite for teaching in an efficient manner.

49. On the character of our vernacular masters, in connection with the inefficient state of our schools, the Superintendent states that one might naturally be disposed to impute the whole fault to the Pantoji, but, taking all circumstances into consideration, he feels indisposed to throw the whole burden of failure on their shoulders. He says, "There are several other causes, independent of the incapacity and negligence of the masters, which cannot be allowed to pass unnoticed. Educated as the masters have been, and possessing, as they do, very limited means of enlarging their little sphere of knowledge, it cannot be much wondered at if the state of the schools under them does not come up to that point of perfection to which the rapid progress of knowledge and learning in the Western hemisphere renders it desirable that it should. Besides, the schoolmaster, being confined to a lonely town or village, and shut up, as it were, from the rest of the world, where he cannot have the least opportunity of benefiting himself from the experience of others from abroad, he has to contend with a variety of whims and prejudices at home. The people of this country are not yet prepared to appreciate the sort of education

which is afforded by our schools to their children; their idea of school learning amounting to no more than mere reading, and writing the current hand in which business is transacted, and a little of cyphering, the rest being considered by them as a mere waste of time. They are consequently not very punctual in sending their children to the schools. This ignorance, added to their poverty, makes the parents over-anxious to remove their children from the schools as soon as they can read and write a little of the Modi character. This, I noticed in my tour of inspection, was the invariable case with a vast majority of the boys of the working classes. It is the Brahmans and a few other high castes, who from birth look up to the pen as the sole means of earning their bread, that have some patience to keep their children at school for a period, say of two, three, or four years. The lower we descend in the scale of caste, the less is the desire or aptitude for our school learning. Under these despondings circumstances the position of the schoolmaster may easily be imagined, even granting him to be a man of talents and industrious habits. And, moreover, if his school happens to be in a town where there is an English Government school, his position is still worse: the quarterly egress of the best of his scholars to feed the English school cannot but have the effect of detracting considerably from the merits of his own."

50. On the general subject of geography the Superintendent makes the following remarks, "In this branch of study it affords me some degree of gratification to state that the ignorance which has long been prevalent in this country with regard to this subject is now fast giving way, and the Pauranic and romantic description of the non-existing oceans and countries, and the hyperbolic heights and lengths of mountains and rivers, are now fast making room for a true and correct knowledge of the earth, and what diversifies its surface. Our little catechisms on geography

and the school maps are working wonders in the task of dispelling darkness on the subject. But it will have added much to the diffusion of true ideas, and to the establishment of the still tottering minds of some of the native youth on a strong and sure footing, had all our schoolmasters been thoroughly impressed with the truth of the subject they are communicating to their pupils. It is a lamentable fact to notice that a considerable number may still be found among them who cannot yet bring their consciences to believe that the earth is not placed on one of the heads of the great serpent, and that there might not yet be discovered, in some parts of it which have not yet been explored by European navigators, oceans of milk and curd. But, in spite of all these drawbacks, I have strong reason to believe that true knowledge is surely making its way, though slowly, but steadily."

### Second Division.

51. At the close of the year there were 8 schools and 636 boys in the Ahmedabad Collectorate, 7 schools and 496 boys in the Kaira Collectorate, 5 schools and 441 boys in the Broach Collectorate, and 17 schools and 814 boys in the Surat Collectorate, making a total of 37 schools and 2,387 pupils in the Division.

52. This Division remains for the present under the superintendence of Mr. Green, who completed his last tour of inspection during the early part of 1849. He has favored us with a Report on the general state of education in his Division, and a view of what has been effected during the five years the schools have been under his superintendence. It appears that during this period the number of pupils has doubled, notwithstanding the introduction and strict enforcement of the monthly Anna fee. But the schools themselves are for the most part still very bad ones, and with the present means can never be otherwise. Two things are

greatly needed, viz. better books, and, still more urgently, better masters. Mr. Green states his opinion that "the only thoroughly satisfactory masters we can get are the young men we teach ourselves—such young men as our Assistants in the Elphinstone Institution and the English schools. None of the attempts to train up masters through the vernacular merely can be *immediately* successful. This is a point which I have always been anxious to bring before the Board, and which, I fear, is not generally well understood. To get at this clearly let any tolerably well-informed Englishman endeavour for a moment to separate in his mind all that he can distinctly trace back to his school and his college, from all that he has acquired from his books, newspapers, reviews, magazines, &c. &c. and from the well-informed circles of society in which he has lived. Let him imagine all his private reading never to have occurred, and the society in which he has lived constantly hostile to his school learning, and try to conceive what the result must have been. But this must for a long while to come be precisely the case of even the best *vernacularly taught* teacher. Whatever you may succeed in giving him at school, you turn him out into a society hostile to it all, and without a language for his further self-education."

53. Mr. Green admits, however, that although none of the masters possess the requisite amount of information, yet some of them display great industry, and others talent, in teaching what they know, particularly the masters of the schools at Dhundooka, Mehmadabad, Bardolee, Surbhon, and Surat, No. 1.

54. The school No. 1 at Ahmedabad is the largest in the Division, containing 264 boys. We lately opened another school in the neighbourhood, for the purpose of relieving it. The new school is flourishing enough, containing 79 boys; yet the exertions and character of the master of the old one have enabled him to maintain his school undiminished in

number. The writing from dictation in the school at Dhundooka is stated to be very good, as well as the reading, and the boys to be very intelligent. In algebra they were able to work original examples, which was hardly the case in any other school. They could also do rapidly and clearly new examples in geometry, and expressed themselves at once with astonishing precision.

55. In too many of the schools, however, the result was very unsatisfactory; and the low attainments of the teachers generally make us look forward with great interest to the decision of the Home Authorities on the proposals submitted for their consideration, relative to the formation of normal classes expressly for training masters of a higher standard for our vernacular schools, as well as for improving their condition in life; for it is impossible to resist the inference, from what has been reported by the Superintendent, and which is confirmed by all the previous experience of the Board, that much of the inferiority of the vernacular schools arises from the slender acquirements and Hindoo prejudices of their masters; and that we must train youths who may form a body of schoolmasters for Mofussil towns, as superior to their pupils as the English pastor with his university education is superior to the bulk of his parishioners, when, and when only, the vernacular schools will have a fair trial.

### Third Division.

56. This division is under the superintendence of Dadoba Pandurang, from whom we have received a Report of the schools in the four Collectorates embraced in this division.

57. At the date of his Report there were 19 schools and 1,304 pupils in the Rutnagherry Collectorate, 13 schools and 729 pupils in the Belgaum Collectorate, 14 schools and

911 pupils in the Dharwar Collectorate, and 9 schools and 529 pupils in the Tanna Collectorate, making a total of 55 schools and 3,473 boys. The amount received from the monthly Anna fee from June 1st 1848 to May 31st 1849 was Rupees 2,663.

58. Six new schools were established during the earlier part of the year, viz. at Panwell in the Tanna Collectorate, at Salset and Anjarwell in the Rutnagherry Collectorate, at Jamboli in the Belgaum Collectorate, and at Bunkapoor and Kalghatgi in the Dharwar Collectorate.

59. The best school in the division is the one No. 1, at Rutnagherry. It has for many years maintained a high character. The master, Gungadhar Ramchundra, well sustains his reputation of being an able, efficient teacher. The boys, consisting chiefly of Konkani Brahmans, are mentioned as being very intelligent. The school No. 2 at the same Station is improving its character. The school at Gohaghur, so well spoken of in Lieutenant Gordon's last Report, maintains its high character. Its progress in reading, writing, grammar, geography, Mahráhta history, arithmetic, algebra, and geometry are reported to be unexceptionably good. The following schools are also represented as being in excellent condition, viz. the schools at Dabhol, Hurnee, Someshwar, and Anjarle, in the Rutnagherry Collectorate; those at Belgaum and Sampgaom, in the Belgaum Collectorate; and those at Dharwar, Hoobblee, and Misrikote, in the Dharwar Collectorate. The master of the school at Someshwar seems to be a very pains-taking man. The progress of his school is spoken of in high terms, so much so, indeed, that its fame has reached the neighbouring towns, which now supply a large proportion of the boys. A considerable number of the boys of the senior classes have acquired, besides the usual course, a considerable insight into the elements of logarithms and

practical geometry. At Anjarle, again, we have every reason to be well satisfied. There is evidently great progress made in all the branches which are taught; and great credit is due both to the teacher and to the inhabitants, who seem to take a lively interest in the prosperity of the school.

60. Too many of the schools, however, are in a very unsatisfactory state; particularly those at Malwan, Palgad, and Kelsi, in the Rutnagherry Collectorate, at Kittur in the Belgaum Collectorate, at Hangol, Ratehali, and Nawalgund, in the Dharwar Collectorate, and at Tanna and Penn, in the Tanna Collectorate. Here, as elsewhere, we find the chief cause of this state of matters to consist in the incapacity and negligence of the masters. Even some of our masters who possess a tolerable amount of information seem wanting in practical skill, and incapable of imparting to others the knowledge they themselves possess. It appears to us to be impossible to speak of this defect too frequently or too earnestly, for on it hinges all reasonable hope of improvement. A good master, if he be not burdened with too many scholars, will always have a good school; for under whatever external circumstances he may be placed, a man of intelligence and firm character will become the genius of his school, and mould his pupils according to his will. Indeed, it becomes every day more apparent that if our system is to prove beneficial by developing the intellectual faculties, by disciplining the moral powers, and by cultivating a sound judgment, without which education is scarcely worthy of its name, a mind better disciplined, and better stored than our present teachers possess, must be brought to bear upon our schools.

61. In concluding the subject of our vernacular schools in the districts, we subjoin a Tabular Statement, showing the number of schools and pupils in each Collectorate at

the end of September last, and a similar Statement, showing how they stood in the corresponding month of the year preceding.

| COLLECTORATES. | Number of Schools. | | Number of Scholars. | |
|---|---|---|---|---|
| | 1849. | 1848. | 1849. | 1848. |
| Poona | 22 | 23 | 1,120 | 1,127 |
| Ahmednuggur | 30 | 31 | 1,603 | 1,721 |
| Sholapoor | 14 | 15 | 632 | 679 |
| Candeish | 9 | 5 | 595 | 518 |
| Surat | 17 | 14 | 880 | 871 |
| Broach | 5 | 5 | 446 | 413 |
| Ahmedabad | 8 | 7 | 644 | 565 |
| Kaira | 7 | 7 | 524 | 605 |
| Rutnagherry | 19 | 19 | 1,303 | 1,306 |
| Dharwar | 14 | 14 | 900 | 775 |
| Belgaum | 13 | 13 | 720 | 674 |
| Tanna | 9 | 10 | 570 | 557 |
| Total | 167 | 163 | 9,937 | 9,811 |

62. As an opinion appears to prevail pretty generally that the subject of vernacular education has been neglected at the Board, from the exclusive attention which has been paid to the promotion of English studies, we have thought it right, for the purpose of correcting this erroneous view, to direct our Secretary to prepare the following Tables, which show (though by no means perfectly) the amount of attention which has been bestowed by the Board on these two subjects respectively; and we may add that as two gentlemen with so much experience in vernacular instruction as

Dr. McLennan and Colonel Jervis were Members of the Board during the greater part of this period, the fullest opportunity occurred for bringing forward every scheme which seemed calculated to promote the growth of education amongst the masses; and we may state shortly that the various subjects of normal classes for vernacular schoolmasters, professional superintendence of vernacular schools, and improvement in the character and position of the Native Puntojee, &c. have occupied our time and attention in the proportion of 3 to 1, when compared with subjects relating to English establishments.

*Statement of the different Plans brought forward at the Board of Education, from January 1844 to December 1849, for the Improvement of Vernacular Education, and of the Results, &c.*

| Proposal. | Name of Proposer. | Amount of Discussion. | Result. |
|---|---|---|---|
| To establish a normal class for training masters for vernacular schools. | Dr. Morehead, September 1844. | Numerous Minutes by all the members of the Board, and discussion at several meetings. | Normal classes established in 1845. |
| To enforce the payment of school fees. | Hon'ble Sir Erskine Perry, March 1845. | Several Minutes. | Agreed to. |
| To increase the pay of vernacular masters. | Hon'ble Sir Erskine Perry, 1845. | 1 Minute. | Agreed to. |
| The expediency and the means of establishing a Pension Fund for Native masters. | Hon'ble Sir Erskine Perry, April 1845. | 1 Minute by Sir Erskine Perry.<br>1 Discussion at the Board. | Referred to Government. |
| To increase the number of superintendents of schools from 2 to 3. | Hon'ble Sir Erskine Perry, May 1845. | 1 Minute by Sir Erskine Perry.<br>2 Discussions at the Board. | Proposal carried. |

| | | | |
|---|---|---|---|
| To pass a Resolution that the object most prominently demanding our attention is the improvement of the means of vernacular instruction by the translation of standard works, &c. | Colonel Jervis, May 1847. | Numerous Minutes by all the members of the Board, and discussion at several meetings. | Referred to Government. |
| To appoint Major Candy Mahráhta Translator to the Board. | Hon'ble Sir Erskine Perry, June 1847. | Several Minutes. | Sanctioned by Government. |
| To establish normal classes for schoolmasters at Poona and Surat. | Hon'ble Sir Erskine Perry, May 1848. | Numerous Minutes by all the members of the Board, and discussion at several meetings. | Referred to Government. |
| To draw up Rules for the guidance of Translators. | Captain Hart, September 1849. | 1 Minute.<br>1 Meeting. | Agreed to. |
| To amalgamate the Sanskrit College and Poona English School. | Hon'ble Sir Erskine Perry. | Numerous Minutes, and discussions at several meetings. | Still under consideration. |
| To give assistance to Native libraries. | Captain Hart, October 1849. | Several Minutes. | Agreed to. |

NOTE.—44 vernacular schools were established during the six years, and Rupees 546 expended in giving assistance towards the building of venacular school-houses.

*Statement of the different Plans brought forward at the Board of Education, from January* 1844 *to December* 1849, *for the Improvement of English Education, and the Results, &c.*

| Proposal. | Name of Proposer. | Amount of Discussion. | Result. |
|---|---|---|---|
| To expend the Professorship Funds for the sole objects contemplated on their establishment. | Colonel Jervis, 1845. | Several Minutes, and several discussions at the meeting of the Board. | Agreed to. |
| To procure the services of seven English masters from England, two or three of whom were to be employed in superintendence of, and in training masters for vernacular schools. | Hon'ble Sir Erskine Perry, in 1845-46. | Several Minutes. | Government requested to procure them. |
| To build a New Elphinstone Institution. | Colonel Jervis, in 1846. | Numerous Minutes by all the members of the Board, and several discussions at their meetings. | Referred to Government. |

| | | | |
|---|---|---|---|
| To give instruction in chemistry at the Elphinstone Institution.. | Hon'ble Sir Erskine Perry. | 1 Minute.<br>1 Meeting. | Dr. Giraud appointed. |
| To form a law class. | Hon'ble Sir Erskine Perry. | 1 Minute.<br>1 Meeting. | Referred to Government. |
| To give employment to the late students in the class of civil engineering. | Hon'ble Sir Erskine Perry, in 1848. | 1 Minute.<br>1 Meeting. | Referred to Government. |
| To appoint Professors in midwifery and medical jurisprudence at the Grant College, and to appoint the most distinguished students of the College as Sub-Assistant Surgeons. | Dr. McLennan, in August 1848. | Several Minutes. | Government sanction requested. |

NOTE.—Four English schools were established during the six years, and Rupees 4,545 expended in giving assistance towards building English school-houses at Ahmedabad, Ahmednuggur, Dharwar, and Broach.

## V.

## POONA SANSKRIT COLLEGE.

| | | |
|---|---|---|
| Superintendent | | Major T. Candy. |
| Number of Students. | Stipendiary | 85 |
| | Non-stipendiary | 187 |
| | | 272 |

63. We have received from Major Candy an able Report on the progress of this College, embracing the year terminating on the 30th of April last, and we find there is an increase of eleven students on the year.

64. A new and interesting feature in the College is the formation of a class of students who are the children of the Native nobility and gentry, and who pay a small monthly fee.

65. In the Vernacular department a large proportion of the students write correctly from dictation, and a few of the more advanced boys in the mathematical classes have been studying algebra, trigonometry, logarithms, and the differential calculus.

66. In the English department a fifth class was formed in October, and the progress of them all appears to be very satisfactory. Their studies were English reading and composition, translation from Mahràhta into English, and from English into Mahràhta, dictation, mathematics, history, geography, and writing. The two upper classes were under the Superintendent's personal instruction with reference to their English reading, their English composition, and their translations. Their reading was with a view to acquire a critical knowledge of the language. Their progress was considered satisfactory, and Major Candy hopes that these classes will produce some good translators.

67. The annual examination was held in October, in the presence of the Judicial Commissioner, the Revenue Com-

missioner S. D., and the Collector, and we are happy in being able to subjoin the following account of the impression made on the minds of these gentlemen by quoting their remarks on the occasion, from a letter addressed to the Superintendent:—

"The Sanskrit classes, with which the examination commenced, appeared to answer to the questions put to them with intelligence and alacrity; as, however, our want of acquaintance with this language disqualifies us from judging of this department, we shall proceed to notice that of the Vernacular tongue.

"The attainments of the scholars in this branch of education appeared to us highly creditable; they read and parsed well, were quick and correct in algebra and geometry, did some propositions of Euclid in very creditable style, and showed an extensive knowledge in geography. The scholars also exhibited some beautiful specimens of Balboodh and Mori writing.

"The pronunciation of some of the English scholars struck us as very correct, and on the whole this department gave proofs of careful instruction. They translated well some difficult pieces, and showed a good acquaintance with the construction of the language, and a correct knowledge of etymology. Their knowledge of English history was also creditable and extensive.

"We were glad to notice a new feature in the College, in a class of children of the Native gentry, who pay for their education. This is satisfactory, as showing the increasing appreciation by the Natives of this country of the advantages of European literature, and of the importance of their sharing in the education which, through the liberality of Government, is now attainable by the humble classes of society.

"On the whole, what we witnessed afforded us much gratification; and we are of opinion that the results thus far of your superintendence are calculated to give you every

encouragement in the prosecution of your highly interesting labours."

68. In a previous Report Major Candy gave a sketch of the history and object of the College from its establishment; and in the present one he gives a brief *resumé* which we consider worth quoting. He says, "I showed, that so long as it was a merely Sanskrit institution, the only good that it was calculated to effect was the cultivation and preservation of that language; this was a good not to be esteemed lightly; for Latin was not more useful in the improvement of English, than Sanskrit may be made in improving Mahràhta; but still it was a good far below what the College might be made to effect. I then traced the various measures which had been adopted to increase the efficiency of the institution, and to make it tell upon the improvement of Native literature, such as the introduction of the study of the vernacular, the establishment of a lithographic press department, and, lastly, the introduction of the study of English combined with the study of Sanskrit and Mahràhta. This last measure brought the College to its present state. It has now a Sanskrit, a Vernacular, an English-vernacular, and a lithographic press and depository department."

69. Major Candy then submitted several able suggestions for still further increasing the efficiency of the College, and for making it extensively useful as a seminary for translators, and an Institution for training masters for our vernacular schools. These suggestions were, 1st, the appointment of a European gentleman to the College, who should study the vernacular and Sanskrit languages to qualify himself for eventually becoming Superintendent, and who should in the meanwhile discharge the duty of Professor of English literature and science; 2ndly, the appointment in the English department of a Professor of the vernacular, who should be able to give to the students a critical knowledge of their own language in connexion with the

study of Sanskrit and English; 3rdly, the establishment of two or three translation scholarships or exhibitions, the holders of which should be required to produce periodically a translation or an original composition; 4thly, the formation of a schoolmaster class. To these different suggestions we have given the consideration which their importance demanded; but involving, as they do, a considerable addition to our expenditure, we are compelled to proceed with caution, and for the present our decision is necessarily postponed, pending the receipt of instructions from the Honorable the Court of Directors relative to financial questions connected with the formation of Normal schools.

70. Subsequently the whole subject of the College has been under our consideration with a view to remodel it. The object of our plan is to combine the Sanskrit College with the English school, so as to enable the Brahmin youths who have hitherto devoted so many laborious years to the study of Sanskrit literature, to enter the field of competition with their young countrymen, whom we are endeavouring to impregnate with the results of European knowledge. We fully appreciate the attempts of Major Candy to introduce more useful classes of study into the College, but we think it a waste of resources to maintain in the same city two adjoining institutions in which separate establishments are necessary for instruction in modern science, in English, and in the native languages; and we conceive that the Institution at Poona for the education of Natives in the higher branches of knowledge should be formed rather on the model of the Benares College, or, better still, of the Elphinstone Institution, than on its present footing. By this amalgamation the undue encouragement which, in our opinion, is at present given by the existence of a Sanskrit College to the almost exclusive cultivation of a dead language and very ancient literature, would cease, while at the same time sufficient opportunity would exist for the acquirement of sufficient Sanskrit for all philological purposes. Should the

Government approve of the detailed plan, in accordance with the above views, which we trust shortly to be able to lay before your Lordship in Council, the saving thereby effected might go far to support the effective establishment we have so long desired to initiate, of a Normal school for vernacular schoolmasters, which we have in this and many previous Reports pointed out, as the first great step for the improvement of our vernacular schools.

## VI.

## GRANT MEDICAL COLLEGE.

71. We had the honor, in August last, to submit to your Lordship in Council the annual Report by the Superintendent of this College for the session 1848-49. Since the date of such Report another session has commenced. An examination of fresh candidates for admission as free and stipendiary students was held on the 12th of April last, and five of the candidates were found qualified, three as free students, and two as stipendiary ones. The present session commenced on the 15th of June.

72. A new feature in the College was the formation, at the commencement of the session, of a class of students selected from the Hospital apprentices at the Presidency, for the purpose of making the course of medical instruction at the College available for the improvement of apprentices in the public Service.

73. The plan originated in a Minute by our late colleague, Dr. Burnes, who, impressed with the able and efficient system adopted for communicating instruction at this institution, and desirous of seeing the benefits of such instruction applied directly for the good of the public Service, proposed, on the principle adopted in the Bengal Medical College, that fifteen apprentices should be selected from the

different Hospitals to attend the courses on Anatomy, Physiology, Chemistry, Materia Medica, and Pharmacy, and be attached to the Jamsetjee Jejeebhoy Hospital.

74. The subject was referred for the opinion of the Superintendent; and as Dr. Morehead fully concurred in the suggestion, as one well calculated to effect the object aimed at, and as he further stated that it could be carried out without interfering with the other and main objects of the College, we submitted the subject for your approval, and obtained your cordial sanction and concurrence. We have requested Dr. Morehead to favor us, at the close of the session, with a Report on the subject generally, and to offer such suggestions in relation to it as he may consider necessary.

75. The general progress of the College since its first establishment has afforded us unmixed satisfaction. The machinery for its working was in the first instance made as perfect as circumstances required; and the Honorable the Court of Directors proved the deep interest they took in the cause of native medical education by liberally sanctioning every arrangement that was proposed.

76. The original machinery, however, did not include any provision for teaching those branches which were not to form part of the course of study previous to the commencement of the fourth session, viz. Midwifery and Medical Jurisprudence. As the season approached, however, when it became necessary to propose some plan for giving such instruction, our late colleague, Dr. McLennan, brought the subject prominently forward in a Minute, which we had the honor of submitting to your Lordship in Council in August 1848, with an expression of our warm concurrence in the views which were there so ably expounded.

77. As the fourth session was not to commence till the following June, we were in hopes that the measures suggested would by that time have been sanctioned by the

Honorable the Court of Directors. As yet, however, we have not had the satisfaction of receiving such sanction.

78. It was stated of the three Professors of this College, in the Minute referred to, " No one who has had the opportunity, which I have enjoyed, of seeing the great weight of duty which presses on all of these Officers, and who has witnessed, as I have done, the unwearied industry and attention with which their most important avocations are performed, can come to any other conclusion than that no amount of assiduity or diligence can enable them to compass more work than they now perform." In the justness of these remarks we fully concurred, and therefore felt that without more assistance the two important branches alluded to must have been omitted during the approaching session. Happily, however, at that moment the professional zeal of Assistant Surgeons Peele and Coles induced them to offer their services, the former as Professor of Midwifery, and the latter of Medical Jurisprudence. With the full concurrence of the Superintendent, and the sanction of your Lordship in Council, these gentlemen commenced their labors, and have continued them to the present moment, to the great advantage of the College, and to the perfect satisfaction of the Superintendent. To both these gentlemen we would, in an especial manner, beg to offer our warm acknowledgments for the valuable aid afforded by their unremunerated services.

79. There were two other subjects brought forward in the Minute in question, viz. first, the extension and proper care of the musuem, and secondly, the necessity of making provision for the employment, in the public service, of the students on completing their education. It was proposed to provide for the first by nominating a Curator, who should devote his time and talents to arranging and extending this very important department of a medical school. With regard to the second subject, it was proposed to add to the

medical establishment a class of Officers, to be designated Sub-Assistant Surgeons, to be filled exclusively from the most efficient graduates of the College, on the principle long since sanctioned and carried out in Bengal. Both these proposals also met with our hearty concurrence; and we again beg to recommend them for favorable consideration. The Minute to which we have thus alluded will be found in Appendix No. 2.

## VII.

## BOOK DEPOSITORIES OF THE ELPHINSTONE INSTITUTION AND POONA SANSKRIT COLLEGE.

80. To form a collection of books suitable for the different kinds of schools was one of the original objects of the Native Education Society, and the several Reports of that Society exhibit in detail the origin and progressive increase of the depository of the Institution. The depository of the Poona College was formed in 1840, with the view of facilitating the distribution of books in the vernacular schools in the Deccan; and both depositories have been to a great extent supplied with books lithographed at the College Press. Branch depositories have since been formed at Ahmednuggur, Nasick, Dhulia, Sholapoor, Junir, Surat, Broach, Ahmedabad, Rutnagherry, Belgaum, and Dharwar. The five first-named are supplied direct from the depository of the Poona College, the others from that of the Institution; and we hope to make these depositories more available for the Native community generally.

81. The following books were printed during the year in Bombay, on account of the depository of the Elphinstone Institution:—

*In Mahráhta.*

| | No. of copies. |
|---|---|
| 1. Life of Columbus | 2,000 |
| 2. History of India | 2,000 |
| 3. Elements of Geometry | 1,000 |
| 4. Treatise on Cleanliness | 1,000 |

*In Gujerati.*

| | |
|---|---|
| 1. Life of Columbus | 2,000 |
| 2. Bodh Katha | 1,000 |
| 3. Moral Maxims | 2,000 |

82. The following were in the press in Bombay at the close of the year, on account of the depository :—

| | |
|---|---|
| Moral Class Book | Mahráhta. |
| Catechism of the History of the Mahráhtas | do. |
| Outlines of Geography | do. |
| Dodsley's Fables | Gujerati. |

83. The following works were lithographed at the press of the Poona College during the year :—

| | No. of copies. |
|---|---|
| Amerkosh | 1,000 |
| Apurnauk | 2,000 |
| Bhugol Vidya | 2,000 |
| Laghuhitopadesh | 2,000 |
| Rupavali | 1,000 |
| Samas Chandrika | 1,000 |
| Balmitra, 1st vol. | 2,000 |
| Raghu Wunsh, 2nd Sarg | 1,000 |
| Ditto 4th do. | 1,000 |
| Ditto 11th do. | 1,000 |
| Map for History of India | 2,000 |
| Mori Kitas, or Copy Slips for Writing | 1,800 |
| Forms of different Bills | 1,000 |
| List of Books | 50 |

84. The following were in the press at the close of the year:—

Purnauk.
Pratap Rúdra.
Nyayu Ratna.
Magh, 1st Sarg.

85. It has more than once been pointed out that some of our vernacular publications were objectionable as class books, and at different times during the last few years we have, in consequence, struck off the list the following books, viz. Panchopakhyan, Bodh Wachan, Sewasan Batise, and Vidúr Niti. During the past year we also decided that Sar Sangraha should not be reprinted, but that as soon as the present copies of the book were exhausted, the work itself should be struck off the list. With the view of still further weeding our depositories, if necessary, we have called the attention of Major Candy to the subject, requesting him to examine very carefully each of our Mahráhta publications, with the view of removing everything that may be found objectionable, previous to passing new editions through the press, and of striking off the list any work which may be found to contain either false morality or false science.

86. In the work of translation we are receiving great assistance from our late colleague, Colonel Jervis, from Major Candy, from Mr. Green, and from the German Missionaries in the Southern Provinces. Colonel Jervis is now engaged in passing through the press editions of De Morgan's "Elements of Arithmetic" and his "Elements of Algebra," translated into Mahráhta. They are works from the use of which we anticipate much good, believing, as we do, that they are admirably adapted for the cultivation of the intellectual faculties, the knowledge of these subjects being, by De Morgan's system, conveyed by a process of reason and demonstration.

87. Major Candy has prepared for the press a class book in Mahráhta, being a translation of pieces selected from McCulloch's Third Reading Book, and from his Series of Lessons. He has also made some progress with the translation of Taylor's Manual of Ancient History. He has also been much occupied in revising and seeing through the press different editions of Native class books.

88. Mr. Green also has written and prepared for the press two works in Gujerati, which are calculated to be of much use in our schools. One consists of a collection of familiar English phrases, with idiomatical Gujerati equivalents. The other is a work on Physical Astronomy.

89. We are happy, also, in being able to state that we are receiving valuable assistance from the German Missionaries in the Southern Provinces. Possessed of a critical knowledge of Canarese, these gentlemen are aiding us in the preparation of class books in that language. They have already completed the translation of Chambers' Moral Class Book, and have passed an edition of 800 copies through the press. We are at the present moment in communication with one of these gentlemen relative to the translation into Canarese of a selection from McCulloch.

90. In concluding this subject we may perhaps be allowed to express the interest with which we view the formation of the two kindred Societies which have lately sprung into existence, viz. "The Deccan Vernacular Translation Society" and "The Vernacular Society of Gujerat." Conducted and supported by the able men who are thus devoting their time and talents to the great cause of Native improvement, we have a strong hope that much good may result. The field they have entered is an ample one, and though their labors may be discouraging for a time, yet long-continued efforts by such Societies, and by the various other parties who are engaged in the work of transla-

tion, must tend to hasten the day in which, it is to be hoped, the streams of European literature, science, and civilization shall flow through the land.

91. In conclusion, we beg to append to our Report an elaborate Minute by our President, which he recorded during the past year, containing the matured exposition of his views, after six years' experience at our Board, on the state and prospects of education at this Presidency. The various subjects therein treated of have met with the gravest consideration at our hands; and to many of the suggestions there made we have already proceeded to give effect.

92. Your Lordship in Council will perceive that the Accounts which we have appended to the present Report have been framed on the principles laid down in the Minute adverted to; and it will be satisfactory to Government to learn that, upon all the practical immediate questions affecting the progress of education in this Presidency, there is no substantial difference of opinion amongst any of the members of the Board.

We have the honor to be,

My Lord,

Your Lordship's most obedient servants,

(Signed) E. PERRY, *President.*

„ JOHN WARDEN.

„ JAGONNATH SUNKERSETT.

„ FRAMJEE COWASJEE.

„ MAHOMED IBRAHIM MUCKBA.

„ M. STOVELL, *Secretary.*

*Bombay, May 17th* 1850.

# APPENDICES.

# Appendix No. I.

## ELPHINSTONE INSTITUTION.

*June* 1849.

First Normal Scholars.

*History of Modern Europe.*

*Questions.*

I.—1. State briefly what you know of the origin of printing?

2. Origin of the terms *paper* and *parchment*, and historical circumstances connected with the invention of the latter?

3. What otherwise inexplicable facts in ancient history may be accounted for by supposing a knowledge of gunpowder?

4. What people would seem to have had the earliest knowledge of the polarity of the magnet; and how did they apply it?

II.—1. What do you understand by "The Romance Languages?"

2. Who were the most celebrated Italian poets of the fourteenth century? Which of them has been justly styled "The father of modern European literature"?

3. Two Bacons occur in English literature; when did each of them live, and for what were they respectively distinguished?

III.—1. Extent of the dominions of the Emperor Charles V. at his accession? His contemporaries in England, France, and Turkey?

2. How were the names of "*the Constable*" and of "*the Duke of Bourbon*" connected with the Italian wars of Charles?

3. Date and terms of the Peace of Cambray?

IV.—1. Who were the contending parties at the battle of Flodden Field? Date and results of the engagement?

2. Two Princes of the family of O'Neil opposed the extension of the English power in Ireland; when did each of them live, and to what English Generals were they respectively opposed?

3. State briefly the steps by which the Parliament of the United Kingdom of Great Britain and Ireland attained its present constitution?

V.—1. Who founded the House of Austria; and what additions have since been made to its dominions?

2. Origin of the Russian State; when, and in what capacity do they first appear in history?

3. To what race doth the majority of Austrian and Russian subjects belong?

(Signed) RICHARD T. REID, A. B.

## *History of Modern Europe.*

### *Answers.*

I.—1. The origin of printing may be traced as far as the 13th century. It was first invented in Holland, where blocks of wood were carved into letters, and then imprinted on the paper—a rude method of stereotype. Subsequently John of Gutenburg invented moveable types, and established a printing-press at Worms, on the banks of the Rhine. This was as late as the 15th century. From this place the art spread through France, England, and Germany.

4.—The earliest knowledge of the polarity of the magnet the Chinese had. That nation employed it to ascertain the Southern direction, towards which they used to turn when they were engaged in their devotion. This we know from Marco Polo.

II.—2. The most celebrated Italian poets in the 14th century were Dante and Petrarch. The first of them is justly styled the "Father of modern European literature." His influence in this department was as great as that of Homer on the poetry of Greece, and that of Michael Angelo on the fine arts.

3. Two Bacons occur in English literature; the first was Roger Bacon, and the second Francis Bacon. The former flourished in England in the 13th century, and was the first who, despising the learning of the schoolmen, applied himself in making various experiments in chemistry and medicine. His principal work is the "Opus Majus," from which we know that he knew the composition of gunpowder, and how to make glass by means of sand. The latter, that is Francis Bacon, Lord Verulam, flourished in England during the reigns of Elizabeth and James I. He was Lord High Chancellor in the latter reign. His political conduct is highly blameable, but his literary character has screened him from the reproach of posterity. His principal works are "Novum Organum," and "De Augmentis Scientiarum," in which he has drawn a map, as it were, of several sciences, fixing their limits, and showing their aims. But his principle consisted in turning the course of the human mind from the false ways of the scholastics to the true and philosophical way which characterizes the last three centuries.

III.—1. The dominions of Charles V. at his accession comprised Spain, Netherlands, and the Indies, together with the hereditary dominions of the House of Austria in Germany; to this may be added the kingdom of the two Sicilies. His contemporaries in England, France, and Turkey were Henry VIII., Francis I., and Solyman the Magnificent.

2. These two persons, dissatisfied with the conduct of Francis I., deserted to the Emperor, by whom they were appointed as Generals of his army in Italy. The Duke defeated and took prisoner Francis, at the celebrated battle of Pavia (1525). Afterwards, the Constable took Rome by assault, in which he lost his life.

3. The peace of Cambray took place in the year 1529; the terms of which were that Charles ceded his claims to Burgundy in return for the giving up of the claim to Milanese by Francis. This was concluded by the mother of Francis and the aunt of Charles.

IV.—1. The contending parties at the battle of Flodden Field (1513) were the English and the Scots. The former were commanded by the Earl of Surrey, and the latter by James IV., the Scottish king himself. At first James had in his hand the opportunity of defeating the English, while they were crossing a bridge; but, influenced by the notions of chivalry, he disdained to take such an advantage, and met the English in the open field. The consequence was the total defeat of the Scotch army, the king and the principal nobility being among the slain.

2. One of the princes of the family of O'Neil, who opposed the extension of the English power in Ireland, was Hugh, called by the English Earl of Tyrone. He headed a rebellion in the time of Elizabeth, and Essex was sent to put him down. After struggling for some time Tyrone submitted.

3. The first Parliament that was instituted was in the reign of Henry III.; from this time it began to increase in power. Edward I. and Edward III. granted them many Charters; but during the Wars of the Roses it became entirely subservient to the regal powers. During the reigns of James I. and Charles I. the Parliament openly began to question the right of kings, and at last seemed to triumph when a counter revolution took place, which again made the kingly power under Charles II. absolute. Still, during these reigns, many acts favourable to the liberty of the people were passed, the chief of them being the Petition of Right and the Habeas Corpus Act. During the Revolution of 1688 the Parliament acquired predominant power in the country, and from that time its power is constantly on the increase. In 1706 the Parliaments of England and Scotland were united into one, and till the year 1800 Ireland had a separate legis-

lature. From this time the Parliaments of the three countries continue to act in concert.

V.—1. The House of Austria was founded by a Swiss noble, named Rodolph of Hapsburg. His dominions comprised the three provinces of Austria, Styria, and Carniola. Subsequently, Albert of Austria united with it other provinces. When Ferdinand succeeded Charles V. in the Empire, he added Bohemia and Hungary, in right of his wife, the sister of Louis, king of these two countries. In the wars of the Spanish succession, Austria acquired Milan and Lombardy, and the territories of Venice.

3. The majority of the Austrian and Russian subjects belong to the Slavonic race.

(Signed) JEHANGEER BURJORJEE.

## SECOND NORMAL SCHOLARS.

### *Elements of Political Economy.*

#### *Questions.*

1. Define wealth. What advantage does money possess over other forms of wealth?
2. What conditions necessary to the production of wealth are assumed by political economists?
3. Primary requisites of production?
4. The notion that nature lends more assistance in agriculture than in manufactures arose from a misconception of the nature of rent?
5. Define productive labour. There is much *useful* labour of which production is not the object?
6. Utilities produced by labour are of three kinds?
7. What is capital? Function of capital in production?
8. Labourers are always subsisted from capital?
9. What is meant by "capital is the result of *saving*"?
10. How is capital kept up?
11. Capital is usually divided into two species?
12. Causes of superior productiveness?

13. Co-operation is of two distinct kinds : instance of each ?
14. The fact that the Greek Colonies advanced much more rapidly than the Roman shows how incorrect are some modern notions regarding *security ?*
15. What is meant by saying that wages depend on demand and supply ?
16. *Wages* are generally higher in the production of articles of fashion and taste ?
17. The rate of profit depends on the cost of labour ?
18. Origin of *rent*. Rent in some countries of the East is mistaken for taxation ?
19. Rent is not determined exclusively by the fertility of the lands ?

(Signed) RICHARD T. REID, A. B.

## *Elements of Political Economy.*

### *Answers.*

1. All the things which are necessary and useful to man, and which possess value in exchange, can be denominated wealth. The advantages which money possesses over all other forms of wealth are these : 1st, That money is of all other things more durable ; 2nd, Less liable to destruction ; 3rd, Comparatively it is constant in value ; 4th, It can be kept with convenience, and readily exchanged.
3. Labour and natural objects.
4. This notion arose from the misconception of the nature of rent. The only reason that rent is paid is that land is occupied, or in other words it is limited.
5. Productive labour can be thus defined : those labours that immediately conduce to satisfy the necessities, and not the luxuries of man, are called productive labours, as for example, the labours of an agriculturist, a baker, a ploughman, a smith, a grinder of corn, &c. ; the useful labours of which production is not the object, are the labours of an author, a musician, &c.
6. The utilities produced by labour are of three kinds ; 1st, Those

which are found in the objects themselves; 2nd, They are found in human beings, as for instance, the labour or profession of a teacher, or the necessity of Government; and 3rd, Those which are not found in the objects, as the profession of a musician, a showman, a dramatist, &c. The utilities which these persons produce have no permanence; their effects are temporary.

7. Capital is that part of the wealth of nations which is set apart with a view to profit. Mill thus defines capital: "It is that part of the previously collected stock of labour which a man intends to employ in future with a view to gain." The immediate function of capital in production is to supply the labourer with food in the form of wages, and with materials.
8. Labourers are always supported by capital, because how can they work without providing, however scantily it might be, for themselves and for their families? For this purpose they receive, (sometimes even in advance,) from the manufacturer, remuneration for their labour in the form of wages. Now a manufacturer, if he has no capital, is obliged to borrow the capital of another person. Thus, after all, labourers subsist on capital.
9. That capital is the result of saving appears from its very definition. What is kept with the intention of future gain by a man is the capital, so that the existence of capital actually depends on the intention of the person.
10. Capital is kept up by employing it as a reproductive agent in some transactions.
11. Fixed and circulating or floating capital. Fixed capital is that which is employed in draining and manuring the soil, in building roads, bridges, farm-houses, sheds, &c., also that which is employed in bank-shares, screw-shares, and steamers, &c.; in fact, all the money employed in the shares of joint-stock companies is fixed capital.
12. The natural causes are climate and fertility, also the local position of the place, whether it is situated near a market-town, and so on. The other circumstances which contribute to the superiority of productiveness are good governments and well-defined laws, and also where there are no restric-

tions on free labor. Security of property is necessary in contributing to the superiority of production.

13. Simple and complex. The simple co-operation is the case of a jeweller, and complex in the case of a cotton or woollen manufacturer.

14. This fact invalidates the theory of many persons who assert that security of property, in the sense they use the term, is the only thing for giving fresh incentives to labour. If we were to survey the whole history of Greece, we will find that when it was not subject to any foreign powers, how often we see the instances of the rapid strides which that nation made in civilization. There are many facts to corroborate this assertion. Yet in the golden age of the Greeks there was not so much security of property as in the time when they were conquered by the Romans, who, although they allowed them the security of property, were yet cruel and rapacious masters. The reason is, that the Romans cruelly oppressed the people by squeezing their money in exacting heavy taxes, &c., which greatly impoverished the whole nation. Such was, however, not the case during the flourishing period of the Greeks, when taxes were scarcely levied, which greatly contributed to the progress of agriculture and commerce—the handmaids of civilization.

(Signed) KAIKHUSROO HORMASJEE.

## *An Essay on the Contributions of Greece to Modern Civilization.*

Before commencing with the work in hand, it is necessary to show what extent I allow to the term Civilization. When we say that one nation is more civilized than another, we mean that the former has acquired a greater knowledge of the world than the latter. But mere knowledge will not do : they must have formed rules of conduct from the various observations they have made. If a man knows the names (but names only) of millions of medi-

cines without knowing their uses, of what use would that knowledge be? Will it enable him to assist his neighbours—to earn for himself a happy condition in society? He who acquires this kind of knowledge must be considered as a fool. Without practical application knowledge is but an incumbrance: it loads the memory without conferring any solid advantage. Such a man would certainly be enabled to make a show, a mere show, of his knowledge. He would talk of this and that; but ask him what he is going to do with all the knowledge he has, and you may be sure he will sit silent. Many persons boast of their knowledge of botany, chemistry, &c. when they have acquired some knowledge of botanical and chemical terms, all of them consisting of three or more syllables; but, after all, what have they to boast of in reality? What is to be done with all these terms if this kind of knowledge does them no solid advantage?

All that I have said before is intended to show that this is not the kind of knowledge—I mean knowledge with its application.

Virtue might sometimes be brought in as an ingredient of civilization; but we must draw a distinction between the virtue of a barbarous and that of a civilized nation. Barbarians are virtuous only because they are not acquainted with the intricate ways of vice; with civilized men, however, the case is quite different; they have a thousand temptations to act viciously. Their virtue therefore is of a different nature from that of the barbarians: they have to arm themselves against their temptations. Barbarians, on the contrary, have but a very small sphere to act in, and consequently do not meet with much difficulty in curbing their passions. The difference, then, consists in this: the latter are virtuous, but virtue as it were forces itself upon them in some degree,—they are to a great extent passive; the former, on the other hand, have to fight with a thousand foes to virtue. With whom then lies the superiority? Two words, though not to their utmost extent, constitute the difference—*inactive* and *active*. From the definition of civilization that I have given, I think it necessary, in treating of the subject, to consider the Greeks in the following departments;—history, philosophy, poetry, and the arts.

Let us first see what advantages the moderns have derived from

the history of Greece, as handed down to them by some of its eminent historians. A superficial observer may say that history is useless ; what advantage has the history of the Greeks done to us? But several reasons can be shown which oblige us to regard the Greek historians with veneration. History is the vehicle of all information. How could a nation be enabled to reap the benefits which the knowledge (in the meaning I have given to the word) of its predecessor or its neighbour is likely to confer on it ? Laying aside the various advantages, in natural science and in art, which the history of one nation does to another, there is another still more important point in which it aids us,—I mean political science. In theory, politicians can frame a thousand methods of governing people, but mere theories would be of little use; while to try so many experiments upon one people is impossible. With what wholesome principles does the history of Athens furnish us! Do we not see the bad consequence arising from a republican form of government? What could we think of the ingratitude of the Athenian populace to its most able generals and statesmen? Should that Miltiades, who once freed his country from a foe who would have made its name and fame extinct, suffer the punishment of banishment? Should the just Aristides, and the brave and virtuous Cimon, also fall victims to their madness? Oh, how often do we see in history that a multitude is led, not by reason, but by passion! In theory a democratic government would be thought the best of governments. Mr. Hume, in his Essay, says that a government in which a council of four hundred deliberate, and in which the mass of the people have a share in all deliberations, will be of all the best. But let us look at the application of this theory in the several republics of Greece, and we will certainly come to the conclusion that a democratical government, however beautiful in theory, is not so in practice. This much for the importance of history in political science. Several other advantages from history may be shown also. We must then, after all, conclude that the Greek historians have served the moderns, and that to a great extent. Let us now turn to the philosophy of the Greeks.

Viewing the Greeks as philosophers, I may safely say that they have not done much towards advancing modern civilization.

The mysterious doctrines of some of the most eminent philosophers of Greece ought justly to be laid aside as useless. The absurd doctrine of the transmigration of souls inculcated by the celebrated Pythagoras, ought to be put down in the list of those doctrines which I consider useless. To say that when a man dies his soul enters another body, and brings it into life, is shockingly absurd. Such ideas as these are in modern times justly laid aside. Let us now turn to another picture equally dark: look at the Stoic philosophers; examine their doctrines, and you will find that almost all of them are not worth a grain of sand. To break the ties of nature,—to say that love is contrary to all virtue,—of what nature are these maxims? I should think that rather than improving a man, they make him savage. Must not the son have any gratitude and respect for the father who took care of him in an age in which he would have been exposed to the severity of the weather, and in fact left to die of hunger? It is human nature that compels the son to be grateful, and to pay respect to his father in return for his innumerable favors. Let these doctrines remain, with their merited disrespect, with the men who inculcated them. Far be it from me to admire them, and to take them as models. In other aspects, however, we ought to view the Greeks with reverence. In the arts of painting and sculpture they had made a great progress. The name of Phidias is familiar to every one who is acquainted with Grecian history. A wise man once said, "Did nature copy the works of Phidias, or he those of nature?" expressing in these few words the character of the work of Phidias. These words are certainly hyperbolical, but they show that his copyings from nature were exquisitely beautiful. The paintings of Zenxis must not also be forgotten. That the arts of painting and sculpture, in which the Greeks so eminently excelled, became useful to the moderns is evident. The Greeks taught the Romans, the Romans the moderns. In poetry the immortal Homer shines at the very outset. His works remain unrivalled up to the present day. The Iliad, in majesty, simplicity, and style, has never been equalled. Lyric and Elegiac poetry was invented by the Ionic Greeks. The Athedrama (according to their notions of the art) has never been surpassed.

As I am outstepping the limits I have proposed to myself, I think it better to conclude this essay. I have shown in some measure how much the Greeks have aided the moderns in history, philosophy, and the arts of painting and sculpture. The subject might be further extended, but time does not permit me.

(Signed) BHASKAR DAMODHAR.

## *An Essay on the Character and Prospects of the Vernacular Literature of Western India.*

The literature of a country is generally taken to be a pretty correct measure of the amount of progress it has made in civilization. This standard, however, does not hold good for poetry, of which it is alleged that the ruder is any nation the greater will be the amount of excellence of its poetical compositions. This idea seems to derive some support from history. We read of the poems of *Homer* being composed at a period when civilization had made but little progress in Greece and the adjoining islands. The ingenuity of modern philosophers, which can stop at nothing without accounting for its cause, has even conjured up a theory for this phenomenon in the literary world ; and in the present state of our mental capabilities, we are by no means warranted to doubt of its validity. It is not necessary in this place to explain what that theory is ; but it will be sufficient to our present purpose to say, that if we are at all disposed to try this part of India by the above standard, we shall derive but a poor opinion of its vernacular literature.

In the first place let us look at the languages spoken in that part. They are principally the Gujarati and Mahrati. Of these it may truly be said that they are merely colloquial : they are totally unfit for writing books in ; they have no susceptibility of expressing those ideas which civilization engenders ; they have neither that comprehensibility nor nicety which is so essential for the communication of knowledge of a foreign and more civilized nation. How much truth there is in the above will be evident from some illustrations. Every one connected with the Institution must have seen by this time the various translations of English works that have lately been printed by the Board of Education. These are but translations of elementary works, but

yet even in this the Sanskrit and the Persian languages have been copiously drained upon, and this merely because of the poverty of the vernacular languages.

Excepting translations from foreign languages, we have but few works in the vernacular which may be said to compose its literature ; even these few are, with some exceptions, translations from the Persian and Sanskrit languages. Their subjects are mostly morality, and legendary tales. It would not do in this place to speak of the excellence of the taste displayed in their composition, or the soundness of the maxims inculcated in them. Scientific works we have but few, and these are but translations of English works. Nor, in my opinion, will such translated works be of any use, unless we devise some means whereby to remove one state of things which has hitherto prevented these works from achieving that amount of good which should be expected to flow from the amount of time and labour spent in their composition. The state I allude to is this: in conversation with a certain friend, who is a native of Gujerat, I happened to introduce the subject of a Gujarati monthly periodical, called "*Vydia Saugar,*" (or "Ocean of Knowledge,") which was edited by a native of this place. I asked him whether that pamphlet was extensively read in that part of India, to which he replied that it was not even so much as taken notice of. The cause of this he stated to be the language in which the pamphlet was written. It would appear that the Gujarati which is spoken in Bombay is scarcely intelligible to our brethren in Gujerat. The cause of this is obvious : the natives of this place being more in contact with foreigners, especially the English, have got a kind of what is called *provincialism.* The Gujarati papers published here can scarcely be intelligible in the up-country; this is the case with Gujarati. That the Mahrati is in the same predicament I am led to believe by the following circumstance: In the year 1844, Sundar Jeevajee prize was proposed to be offered to the best translation, in that language, of three papers from the Spectator, on the "Immortality of the Soul." The prize was awarded to one of the students connected with the Civil Engineering Class. His translation was subsequently published by order of the Board of Education. Some copies were sent in the Southern Mahratta Country to be distributed. In a notice of this pamphlet contained in a letter to our

Principal, Mr. Harkness, from one of the Missionaries in the interior, it was stated that the language of it was scarcely intelligible to people of that place.

This state of things cannot but be highly deprecated. It would afford an additional argument to those who would have the natives educated solely through the medium of the English tongue. If we have the interests of the vernacular literature of this part of India truly at heart, the only way of contributing to its improvement is by changing the ideas prevalent amongst the natives regarding education. Ask a father what he intends his son to be, and the only answer that you are likely to get is, "A clerk," or "A merchant". Labouring under this impression, many parents have sent off their sons to some far-off country, apprenticed (so to speak) to some trading merchants, as if a knowledge of mercantile affairs can only be acquired by a residence at a distance, and not under the immediate eye of the parent himself. While such is the case, no wonder that the vernacular literature has as yet made no progress whatever, notwithstanding the exertions which are made by benevolent-minded individuals for its improvement. As long as our students' thoughts are directed to nothing else besides the desk and the ledger-book, we can by no means expect the state of matters should be otherwise than what we find it to be. If we are at all anxious to get some works in the vernacular, such as the works of Hume, Robertson, Gibbon, in history; of Locke, Reid, and Brown, in mental philosophy, &c., let our students adopt the literary profession for their future occupations. But since this cannot be gained unless the state of things alter for the better, let us work with the machinery we have already in hand. Let us adopt some such plan as that at present carried into effect at the Mahomedan College at Delhi. There, every student, in addition to his scholastic duties, is intrusted with the translation of some English work. Every day he translates a page, which is examined by a principal appointed for the purpose, and when the whole is completed, it is printed, at the expense of Government. Proceeding upon this plan, they have translated several works, among others Mill's Political Economy, Abercrombie on the Intellectual Powers, Norton's Rudimentals, and several others.

(Signed) COWASJEE EDULJEE.

# Appendix No. II.

## MINUTE RELATIVE TO THE GRANT MEDICAL COLLEGE,

BY

DR. McLENNAN,

Inspector General of Hospitals ; Member of the Board of Education, Bombay.

I.—Having been recommended to proceed to Europe for the recovery of my health, and agreeing with my medical advisers as to the advisability of this measure, I shall soon be constrained to relinquish my seat at the Board of Education.

Having been a member of the Board since the commencement of the Grant Medical College, and having previously been a member of the different Committees assembled to take into consideration the establishment of the College, and of the Jemsetjee Jejeebhoy Hospital connected therewith, I would wish, before leaving, to place before the Board my opinion on some matters (as they seem to me) of vast importance to the successful and complete working out of this most important and most deserving Institution, which now promises to do so much for the interests of humanity on this side of India. And first, with regard to its talented Superintendent and Professors, no one who has had the opportunity, which I have enjoyed, of seeing the great weight of duty which presses on all of these officers, and who has witnessed, as I have done, the unwearied industry and attention with which their most important avocations are performed, can come to any other conclusion than that no amount of assiduity or diligence can enable them to compass more work than they now perform.

II.—From the reports of the Grant Medical College fo: the years 1845-46, 1846-47, and 1847-48, and from the Prospectus of the course of instruction for the present session, 1848-49, the following facts are made evident:—

1. That the course of instruction of the students of the College comprises all that is necessary for a complete practical medical education. It includes three courses of Anatomy, demonstrative and practical; two courses of Chemistry, theoretical and practical; two courses of Materia Medica (including Botany), and Practical Pharmacy; two courses of the general doctrines of Physiology, Pathology, and Therapeutics; two or three* courses of the practice of Medicine; two or three* courses of the practice of Surgery; two or three* courses of systematic clinical instruction in Medicine and Surgery; one or two courses of Midwifery, and one or two* courses of Medical Jurisprudence.

2. All these courses of instruction, with the exception of Midwifery and Medical Jurisprudence, are at present in active operation; and the students for the most part evince that degree of industry and ability which gives fair assurance of ultimate professional proficiency. Provision for instruction in Midwifery and Medical Jurisprudence has not yet been made, and it is to this point that I would first request the attention of the Board.

III.—The Superintendent and each Professor begins his day by going to the Hospital between 6 and 7 A. M. and continues there and in the Dispensary attached till 9 A. M. or later. From 10 A. M. lectures, examinations, and practical instruction commence in the College, and continue till 4 P. M. Dr. Morehead, in addition to the general superintendence and management of the Institution, delivers, in the course of the Session, 72 Lectures on the general doctrines of Physiology, Pathology, and Therapeutics; 72 Lectures on the Practice of Medicine; and 36 Lectures on Clinical Medicine; and holds examinations on the subjects of the Lectures.

---

* The larger number is in the event of the curriculum extending to five years, and this, it is not doubted, will be the rule, and the four years curriculum the exception.

Mr. Peet delivers 108 lectures on Anatomy, and superintends and directs the students in their practical Anatomy; also 72 lectures on Surgery, and 36 lectures on Clinical Surgery; and holds examinations on the subjects of the lectures. He further superintends the Presidency Vaccination Department.

Dr. Giraud delivers 72 lectures on Chemistry, 72 on Materia Medica and Botany; superintends the students in the practice of Pharmacy; conducts a course of instruction in practical Chemistry; and holds examinations on the subjects of his lectures. The evening visit to the Hospital has also to be made by each of these officers.

From this detail it must be evident that these gentlemen cannot do more than they now perform, and I would therefore suggest, that the Superintendent be called on to state what are the arrangements which he contemplates for the instruction of the students in these two branches of medical science—Midwifery and Medical Jurisprudence.

In the Calcutta College there is a corps of six or seven Professors, who obtain per mensem from Rs. 800 to Rs. 400 for each subject on which they instruct; those drawing the smaller salaries having, in addition, other appointments under Government. This system, viz. that of taking advantage of the services of officers who already have other occupations, might (it seems to me) be adopted here to provide for the wants of the Grant College in its next Session. Rs. 200 might perhaps be allotted for Midwifery and Clinical Midwifery, and Rs. 150 for Medical Jurisprudence. There is this advantage in an immediate consideration of the subject, that if Government assent to the proposition, which I cannot doubt they will do, (in fact, if they do not, I do not see how the education of the students can be completed,) time will be given to the Authorities and to the Superintendent to make inquiries about Lecturers; and the Lecturers or Professors, when chosen, will have time, before the commencement of the Session, to prepare for their courses of lectures.

IV.—There is another subject on which the experience here of the past three years is instructive, and on which advantage may be taken of the lights afforded by the Calcutta College,—I allude to the extension and to the proper care of the Museum.

Its formation had been begun by the preparations imported from Europe, which were absolutely necessary for the elementary training of the students, and some additions have been since made here; but now that the pupils have advanced beyond the elements of their profession, the want of a Museum of morbid specimens, and even of various preparations of healthy or normal structure, is being greatly felt.

The Professor of Anatomy, of Surgery, and of Clinical Surgery, is so much occupied with these important subjects, and with the superintendence of practical Anatomy in the Dissecting Room, that he cannot devote much of his time to the Museum; and it would, therefore, seem to me to be absolutely necessary that an officer should be appointed to this duty, as in the Calcutta College. His salary might be settled at 150 Rupees per mensem; for this he should be responsible for the due care and advancement of the Museum.

V.—The last matter, on which I would request the attention of the Board, is the consideration of making provision for the employment in the public service of the students, when their education in the College shall have been completed.

If the suggestion about the appointment of lecturers on Midwifery and Medical Jurisprudence be assented to, it is probable that, in April 1850, seven of the students will have completed a curriculum of 4½ years' study, and it is more than probable—nay, it is almost certain—that of these some may be found qualified to receive final certificates of qualification to practise Medicine and Surgery; and in each succeeding April additions to the list of qualified graduates may be looked for.

VI.—From the statements in the above paragraph it may be justly assumed that, after April 1850, a class of Natives, fully qualified for the independent practice of Medicine and Surgery, will begin to be added to the community of this Presidency.

Though it is reasonable to anticipate that the general community will not be slow to discover the advantages resulting from, and to adequately reward an educated class of native medical practitioners, still it must be apparent that these results will not follow immediately upon the students receiving the certificates

of qualification. Some years must be expected to elapse after they leave the College before the confidence of the public can be looked for, and before the reward of their industry can be anticipated. The assistance of the Government should be ready, and should be freely given during these years, in order to prevent that feeling of discouragement which, if the assistance be withheld, must necessarily be experienced by the early students of the College, and must prove an obstacle to others studying the medical profession.

VII.—On referring to the records of those measures which were adopted by the Government, as preliminary to the recommendation of the establishment of a medical College, and on which in fact its foundation has been based,* it will be found that assistance from Government to the early graduates of the College was calculated upon as a condition essential to the permanent prosperity and stability of the Institution. It was at that time (A. D. 1837 and 1838) justly observed, that it would be premature to specify the kind of assistance which ought to be provided for a remote contingency, and it was (truly, it is believed,) argued that it must be for the advantage of the Government, entertaining as it did an extensive medical establishment, to avail itself of proficient native medical talent and acquirement. This anticipation has been realized in Bengal. The medical establishment of that Presidency has been augmented by the addition of fifty Sub-Assistant Surgeons—a class filled exclusively from the graduates of the Bengal Medical College: they receive Rs. 100 a month from the date of their employment, Rs. 150 after seven years, and Rs. 200 after fourteen years' service; but cases of individual merit may be recommended for promotion earlier.

VIII.—The time, it appears to me, would seem now to have arrived, when the Board of Education should urge upon the Government the great expediency of the Hon'ble the Court of Directors being solicited, without delay, to sanction such arrangement as may be adequate to afford that encouragement and support to the early graduates of the Grant Medical College, which is necessary to ensure the permanent prosperity of the

* Sir Robert Grant's Minute, para. 91, dated 25th March 1838.

Institution, and the advantages, to the people of this Presidency, of an educated medical profession. Further, to suggest that the simplest manner of affording this support and encouragement would be to add to the medical establishment of this Presidency, as has been done to that of Bengal, a fixed proportion, say twenty, of a class of medical officers, to be designated Sub-Assistant Surgeons, and to be filled in exclusively from the most proficient graduates of the Grant Medical College. The scale of pay and of promotion to be, in every particular, assimilated to that already sanctioned for Bengal.

Though the commencement of the list of Sub-Assistant Surgeons may be looked for in April 1850, its completion will not be effected till four or five more years shall have elapsed.

IX.—In the event of these views being submitted to Government, I would suggest, that at the same time copies be transmitted of the Reports of the Grant Medical College for 1846-47 and 1847-48, of the Prospectus of the course of study for 1848-49, and of the Syllabus of the courses of lectures with which the Board have been supplied. Thus the Government will be in full possession of information relating to the present state of the Medical College, and be able to test the justness of the inferences drawn in this Memorandum.

(Signed) JOHN MCLENNAN.

21*st August* 1848.

# APPENDIX No. III.

## MINUTE ON THE STATE AND PROSPECTS OF EDUCATION IN BOMBAY.

BY

THE HON'BLE SIR ERSKINE PERRY, KT.,

PRESIDENT OF THE BOARD OF EDUCATION.

1.—*General Review required, from the Funds of our Board being exhausted.* As I am about to leave the Presidency for three or four months, and indeed India altogether within a short period, I think it desirable to place on record the results of a careful review, which I have occupied myself during the last few days in making, of our educational proceedings, with the view of submitting some suggestions on several practical points to the consideration of my colleagues. A searching inquiry is rendered the more necessary at the present moment from the fact that our annual expenditure is exceeding our resources, by the amount of Rs. 10,335, and from the inability of Government to comply with our request for an increased grant. It is therefore incumbent upon the Board to take a diligent retrospect of our resources and our establishments, in order to ascertain whether the most judicious and economic appropriation of existing funds is at present made by us.

2.—*More economic Distribution required.* I have already had occasion to observe to the Board that, on the whole, I do not think the refusal of the Court of Directors to make an additional grant at the present moment is to be deplored, for although, as a zealous friend of education, no one has been more active than myself in endeavouring to obtain further support from Govern-

ment in behalf of law classes, normal classes, pensions, &c., still, on taking a broader view of the subject—on looking at the general exigencies of the State, and the tendency in all departments to run into increased expenditure, unless vigilantly checked—I think the Government is fully justified in not complying with our demands, until we are in a condition to demonstrate to them that every Rupee of the public money, entrusted to our charge, is laid out to the best advantage. When we have satisfied ourselves of this latter condition, we shall be enabled to present ourselves as petitioners with effect; and I see no reason for supposing that our prayers will not then meet with all the favor they may be entitled to.

3.—*Approaching expiration of Charter also making Inquiry necessary.* There is another pressing reason for prosecuting the present inquiry at this moment. The probable visit of the Governor-General to this Presidency during the cold season, and, still more, the approaching discussion in Parliament of the Company's Charter, will raise the question very broadly: "What is doing as to education in Bombay?" And it is from the Board of Education, in the first instance, that an answer will be expected.

4.—*Similar Review in* 1845, *but more satisfactory now.* Similar inquiries to the present were instituted by the Board four years ago and I threw the result of them into the general report for 1845, which the Board after some discussion adopted *in toto.* But increased experience, and also the absence of trammels, which writing in the name of a Board necessarily imposes, enable me now to express myself much more positively on some questions of general importance than I felt myself competent to do in 1845.

5.—*General Remarks.* 1*st. Too much attempted by Board.* The first general observation which occurs to me is, that far too much has been attempted by those who have had the charge of general education in this Presidency, and that the natural result has been, in most instances, failure. The difficulties in the path of a European Government attempting to diffuse education in the East are numerous, the pecuniary resources small, the instruments to carry out well-conceived plans most difficult to find; yet essays have been made in nearly every conceivable path in

which educational movements on the part of a Government are possible. Schools for the poor, schools for the rich, and schools for the middle classes; elementary education universally diffused; collegiate instruction, with the arts and sciences of Europe, for the select few, and, at the same time, the preparation of school books, and the creation of a vernacular literature, in at least three different languages, have all been attempted, and all this on an expenditure of a lac and twenty-five thousand Rupees, and for a population of ten millions!

6.—The explanation of this state of affairs is, that it has principally grown up from a series of unconnected *dilettante* movements, and indeed it might naturally have been expected from the mode in which education first received its impetus from different isolated quarters. One person perceived that the Coonbies were very ignorant, and were often cheated by the money-lender from their ignorance of letters; accordingly, village schools were suggested. Another observed that English was the road to preferment under an English Government, and strongly advocated the establishment of English schools. A third pointed out that it was vain to make English the medium of instruction to one hundred million souls, and that to produce a race of purvoes, who could only copy an English letter, was education merely in name. The advocate of vernacular instruction again was forced to admit that it was difficult to make much progress in a school without school books; and that even if the latter were supplied, there was nothing in vernacular literature to keep up and expand the elementary knowledge acquired at school. Class books, and translations from the literature of Europe, were therefore indispensable. Lastly, normal classes and professional superintendence were observed to be most efficient in producing good schoolmasters and good schools in Europe: why not in India?

7.—All these suggestions were plausible, all had a portion of truth in them, and each found its advocate in the Board, or the Government, or other influential quarter, in its turn. It is not surprising to add that scarcely one of them has been carried out efficiently: and the reason, I apprehend, has been already assigned—that much more has been undertaken than either the means or he instruments available to the Board enabled them to perform.

8.—*2nd. English education the only efficient department.* The next general observation which I desire to make is that, in my opinion, the only department in which the Government system has been at all efficient, at least in any way commensurate with the outlay and exertions made, is in education through the medium of English. As this is a subject which has long been a subject of dispute, and on which great differences of opinion* still exist, I must set out pretty copiously the grounds on which I express myself with so much decision.

9.—I have before pointed (*a*) out, that when Government originally commenced to take the interests of education under their charge at this Presidency, considerable differences of opinion existed between the leading men of that day—Mr. Elphinstone, Mr. Frank Warden, and Sir John Malcolm; but especially between the two latter. Mr. Elphinstone and Mr. Warden only differed as to the extent of the demand for English education amongst the natives, the former thinking that it was comparatively limited, the latter pointing out symptoms for a different conclusion. But it must be admitted that events have fully confirmed the correctness of the views which were taken by Mr. Warden. In 1828, under the Government of Sir John Malcolm, it was supposed by many, and by that able soldier amongst the number, that "numerous causes, local and others, combined to prejudice natives against such (English) schools," and the Governor thought that their "objections were not unreasonable."

(*a*) *Report for* 1845, *pp.* 9, 10.

*Minute of Sir John Malcolm,* 1828.

10.—*Supposed prejudices of Natives against English.* Mr. Warden had previously pointed out in an able Minute, which may be still read with advantage, that no such objections existed; that the wealthier natives were eager to avail themselves of any facilities that occurred for the acquisition of the English language, and Euro-

*Minute of Mr. F. Warden, 24th March* 1828.

* As an example of the conflicting views still current, I may cite a late able work, Captain Cunningham's History of the Seikhs. He repudiates the vernacular languages as wholly inefficient mediums of education; objects to English; and argues that Sanscrit, Persian, and Arabic are the only languages through which effective education can be given to India.

pean knowledge ; and that there was nothing chimerical in laying the foundation stone of a good edifice for teaching what the higher classes of natives are eager to acquire—a knowledge of English.

11.—*Contradicted by experience.* The views, however, of Sir John Malcolm prevailed, and it was considered sufficient encouragement of English education, at its commencement in Bombay, to entertain a schoolmaster at Rs. 50 a month. The quick-sighted perceptions of self-interest, however, in this case, as in so many others, have discovered truths which had escaped our ablest statesmen, for it has been perceived that the true road to advancement under our Government is by the acquisition of the English language, and that it is worth while making sacrifices to obtain the benefits of our English schools, and of the English instruction afforded there. In the educational proceedings, both of this Presidency and Bengal, the broad fact stands out that the demand for English and English schools is increasing every day ; that the natives display the best test of their appreciation of such schools by contributing to their support ; and that on the other hand the Government vernacular schools are languishing, in despite of all the encouragement afforded them.*

12.—*Popularity of English Schools.* I have described the slender encouragement which this Government originally gave to English instruction, and the bias at the Bombay Presidency has always been in favor of vernacular schools, yet at the present moment there are no fewer than 800 youths (to speak in round numbers) at the Elphinstone Institution, although the fee there is one Rupee per month against two Annas in a vernacular school. But this is only a portion of the evidence showing the extent of the demand for English ; for I ascertain, from some inquiries I have instituted on the subject, that there are at the present moment no fewer than nine English private schools in the Island of Bombay, conducted as a commercial speculation,

* Here is testimony as to the Schools in Bengal, from an able writer, extremely conversant with the subject :—" Lord Hardinge passed an order for founding one hundred and one Vernacular schools—they have proved a signal failure." " During the three or four years in which they have been established, they have produced no beneficial impression on the country." —*Friend of India*, October 18, 1849.

besides five English charity schools ; added to which there are seventeen vernacular schools, also conducted as a commercial speculation, for the purpose of training youths for the Elphinstone Institution. I insert the list of the English schools (though it is possibly short of the truth) below,* as the information is new and important.

13.—*Founded on English leading to Preferment.* These statistics show most clearly that, whether Government encouragement be given to English schools or not, the Natives will seek out for themselves, at the Presidency at least, all the opportunities that may offer for resorting to them ; and, what is more, they will pay for the instruction to be obtained there. But what is true of the Presidency is true of the Mofussil also, for the same motives are in operation in both localities : and, indeed, the same phenomenon may be witnessed in both, although it assumes a more marked form, of course, in the denser population, where the intercourse with European mind is more intimate.

14.—*Also on the increasing desire for Information.* But there is another cause for the popularity of English schools besides the worldly advantages, in a mere selfish point of view, which result from them. The instruction conveyed in these schools is discovered to be more sound, more valuable, more positive, than any which our vernacular schools have been enabled to afford. The native of India, though singularly deficient in accurate knowledge, is inquisitive and observant to an extent not often witnessed amongst the bulk of the community in Europe ; and he reasons, most often soundly, on every fact that comes within his notice. But the student who has passed seven or eight years in an English school is perceived to be armed with an

---

* PRIVATE ENGLISH SCHOOLS.
Sorabjee Merwanjee's.
Sorabshaw Dosabhai's.
Mr. Boswell's.
Mr. Hinton's.
Mr. Roberts's.
Sarotum Sakharam's.
Rustomji Merwanjee's.
Mr. Peyton's.
Portuguese School (Mazagon).

CHARITY ENGLISH SCHOOLS.
Parsi Punchayat.
Free Church.
General Assembly.
Charity School (Byculla).
Money School.

instrument which is perpetually opening up for him sources of amusement and instruction.

15.—*Result of English Education at the Presidency.* It is only in the Presidency that English education has been established on a broad footing: it is only here, therefore, that its due results can be ascertained. I have already mentioned that the first teacher of English, appointed at Mr. Elphinstone's suggestion in 1824 or 1825, received a salary of only Rs. 50. When Professors Orlebar and Harkness arrived in the country, in 1835, they were for a long time unoccupied, for want of any class willing or able to profit by their instruction. Some of the facts I have mentioned will display what a different state of things now exists; but a closer inquiry into the subject will demonstrate, in my opinion, that a thorough awakening of the native mind amongst the youth of the Island has been effected; and that a thirst for knowledge, with an earnest desire for self-improvement, is widely perceptible in this Presidency. Societies for the diffusion of information in the vernacular languages, and for literary discussion; schools for female education, and other demonstrations of mental activity, are displaying themselves, and in the happiest form, as spontaneous efforts of the young men themselves; and in justice to the youth of Bombay it ought to be added, that extremely little of the flippancy, self-conceit, and turgid bombast which have appeared in other parts of India, has hitherto shown itself amongst them.

16.—Wherever an opportunity hasbeen afforded for imparting the higher education,, it has been zealously taken advantage of, and with the happiest results. All the reports hitherto received of the progress at the Grant Medical College have been most propitious. The special class of Civil Engineers, formed at the desire of the Government, fully answered all our sanguine expectations; and it is much to be regretted that such carefully trained and able young men have been allowed to sink down to the ordinary low level of uninstructed native *employés*. In like manner it may be safely predicated, that the native mind at the Presidency is in such a condition as to fit it for the reception of any acquirements which the State may please to demand; and although it is sometimes stated as a reproach that the only effect of English education has been to produce an additional number

of Purvoes, the correct observation to be made on this subject is that unfortunately in this Presidency the public rewards which attend upon superior education are very few. The Presidency of Bengal stands out in marked pre-eminence in this respect; and, by Returns published in the *Friend of India*, I perceive that the number of well-paid appointments available for natives, from Rs. 1,200 downwards, very far exceeds the numerical ratio of such appointments in the Presidency of Bombay.*

17.—*Results of Vernacular Education.* On the other hand, if the vernacular schools under Government are inquired into, the results will appear very lamentable. It is not very easy, in the first instance, to form accurate conclusions on this subject. Government and the Board are forced to depend on the evidence of others; and it requires some careful sifting of the testimony before a sound judgment can be formed. Some observers are not very competent, others are sanguine, others good-natured, others ever disposed to view favorably their own handiwork. In the early Reports of the Board, very favorable conclusions were formed. In 1840 the Government is assured of "the present promising condition" which these schools had reached. In the following year the schools were pronounced "upon the whole satisfactory." In the third Report they are said to be "upon the whole favorable;" and in the fourth Report "very satisfactory;" and Lieutenant Gordon, in his Report for 1847, pronounces of a great number of schools in the Deccan, that "they show most satisfactory results in every branch of their studies."

*1st Report* 1840.

18.—In the 5th Report, however, the Board, from certain ugly facts which had peeped out here and there, began for the first time to draw sounder conclusions; and now it is pretty generally admitted by all who are conversant with Native education, that our vernacular schools are wholly inefficient. Dadoba Pandoorang, in the able and minute Report which he has furnished for the year 1849, on the schools in the Deccan and Southern Mahratta country, writes as follows:—

"In a majority of our schools in the 1st and 3rd Divisions, no great advance is made beyond mere reading, writing, and a little

* Pay monthly of Civilians in Bengal..... Rs. 4,63,831
Do. do. of Hindoos do ..... Rs. 4,77,289

cyphering. Grammar, geography, a little of the History of the Mahrattas, algebra, Hutton's Geometry, enter no doubt the curriculum of all the schools; but the manner in which they are taught by the masters, and learned by the pupils, is so vague, imperfect, and unsystematic, that nothing like permanent impressions seem to be made on the minds of the boys." Para. 8, again—"The schoolmasters themselves do not believe in the propositions which they teach their pupils." In para. 17 it appears that many schoolmasters still believe that "the earth is placed on one of the heads of the great serpent, and that there may yet be discovered, on some part of the globe not visited by Europeans, oceans of milk and curd." And he draws the broad conclusion that out of twenty schools which he examined minutely there are only two he can pronounce good.

19.—*Causes of the different results.* It may be said, perhaps, that these results are owing to the neglect of the Board, and that vernacular education has been sacrificed to the cultivation of English. Nothing, however, can be more incorrect, for there is no portion of the system to which the Board has given its attention more closely than to these very schools, of which Dadoba writes so disparagingly. Vernacular education on this side of India does not possess a warmer friend than Major Candy, and there is no one abler to carry out every feasible suggestion for their improvement. But these schools in the Deccan were placed under his special superintendence in 1837; and when subsequently the labors of the Mahratti Dictionary engrossed his time, Mr. Eisdale, a schoolmaster of considerable experience, and well acquainted with Mahratta, undertook the charge. The native schoolmasters also were principally supplied from the Poona Sanscrit College, where the training of schoolmasters has always been one of the chief objects kept in view by Major Candy; and the rates of pay, from Rs. 15 to Rs. 30, though they sound small to European ears, are usually sufficient to make the Bramin Puntojee the man best off in the village.

20.—I can give in a very few lines my own view of the causes which have produced such different results in our English and vernacular schools. In the one case it is not at all a difficult matter for an active, vigorous English schoolmaster to impress on the plastic mind of youth a considerable portion of the knowledge

which he has been himself acquiring during the greater part of his life. On the other hand, it is extremely difficult, if not impossible, to teach what is only known imperfectly, what is studied for the nonce, and where the instruments of intercommunication, such as language and literature, are so imperfect.

21.—I will describe, as an illustration of my argument, the effects which two of the ablest men in the service of the Board are capable of performing through the respective mediums of the English and native languages. I believe Major Candy is one of the best Mahratti scholars in the Presidency: he writes it with great purity; and all his energies are devoted to the task of diffusing the useful information of Europe through the tongue which he has studied so diligently. He has besides an express appointment under the Board, for the purpose of devoting himself to translations; and indeed, with these and the formation of vernacular schoolmasters at the Sanscrit College, his whole time is incessantly occupied. We have already seen, on the subject of schoolmasters, how unavailing his labors have been; but with respect to translations, the difficulty which an Englishman encounters in endeavouring to transfuse the spirit and meaning of his author into a Mahratta dress is so great,—the ideas, allusions, and general character of works addressed to a European public are usually so unsuited to a Hindu reader without careful revision,—the business of getting works through a native press is encumbered with so much difficulty,—as to make the results of the most diligent man's labors at the end of the year extremely insignificant; and even Major Candy has not been able to produce, during the twenty-five months he has held the office of translator, more than the following works: 1, Translation of Rules of Board, pp. 23, 8vo.; 2, Address to Mahratti Sirdars; 3, Bal Shastri's India, seen through the press; 4, A translation of the Principles of Morality, pp. 25, 12mo.*

22.—If I refer to the other gentleman I have in my eye, Mr. Green, I see that every hour of his time, since his arrival in India, has been effectively employed. Planted down in Surat, in

* Major Candy, in a letter forwarded to the Board, has pointed out that the training vernacular masters has formed no part of his personal labors, and that his other duties, such as teaching the Sanskrit College English and Mahratti critically, and the examination and revision of Mahratti publications, have not enabled him to devote much time to personal translations.

the year 1842, a stranger in India, with the task of establishing an English school there for the first time, he succeeds by the energy of his character, and the value of the instruction he is enabled to impart, in seven short years, in collecting a school of nearly 300 students; and at the same time he has given a life and impetus to education which is felt throughout the whole of Guzerat.

23.—It may be said that there are not many men of the vigour and acquirements of Mr. Green to be found. I reply that the same observation may be made of Major Candy also; and I add that it is easier for a Board of Education to find men like the former, who are especially trained for the business of education, than like the latter, whose attention has only been drawn accidentally to these matters.

24.—*Unsound notions prevalent on the subject.* I must request the pardon of my colleagues for entering into so much controversy, but such unsound notions appear to me to exist on the subject in various quarters, and such numerous arguments present themselves to my mind in favor of taking advantage of the present bias in behalf of English studies, and of making them the pivot on which our educational efforts should turn, that I feel insensibly led on to greater length than I intended. I will, however, dismiss this portion of my subject, with only one remark as to the political expediency, on the part of the State, of encouraging the study of English as an instrument of good government.

25.—*Political expediency of encouragement to English studies.* There can be no doubt whatever, and Government are perfectly alive to the fact, that the more intimate the communication is between the governors and the governed, the better for both parties. It is only by close intercommunication that complaints become heard and redressed—that the views of the Government for general improvement can be appreciated—that the corruption and extortions of intermediate agency can be checked. It is the clear perception of these views that causes Government to lay so much, and such just stress on their European *employés* making themselves masters of the native languages. But the same good results are produced, and in a much more effective manner, when

the Natives on their part acquire the English language. The English are notoriously bad linguists, the Scotch are worse. They commence their studies of Eastern languages, moreover, at a period of life when the organs of speech are becoming somewhat rigid. But the natives have a wonderful aptitude for language—every one above the rank of a cultivator knows at least two; and, with respect to English, those who undertake the study of it commence at the most favorable period of life for the acquisition of a foreign tongue. At the present moment, although the knowledge of native languages is indispensable to Europeans in civil employment, and although no marked encouragement for the study of English by natives has been afforded by Government, for one civilian who can write a grammatical letter in idiomatic Maharatti or Gujrathi, I will undertake to produce fifty natives who can write off-hand a letter in pure English. Without in the least degree desiring to diminish the *onus* on the European services of acquiring the native languages, I do submit that all sound policy dictates a like encouragement to natives, for the purpose of drawing the relations closer between them and the Government.

26.—III. *Sort of encouragement to be desired from Government.* The last general remark which I desire to make has reference to the sort of encouragement which I think we ought to ask from the Government in behalf of education generally. For reasons which I will give more fully presently, when I discuss our establishments in detail, I do not think we absolutely require any more pecuniary assistance at present. But the warm and cordial support of Government is the main-spring of all our movements. I think it may be given most efficiently in two ways,—first, if the Government enjoins all their influential servants to impress on their native establishments the expediency of patronizing the Government schools, the result will be, if the injunction is enforced, that the various Mamlutdars, Moonsiffs, Sudr Ameens, &c. will vie with one another in zeal in this salutary movement; secondly, the efficiency of English schools having been before demonstrated, and their effect shown, not only in calling into existence other independent English schools, but also independent vernacular schools, Government might give

a still-greater impetus and powers of increased utility to these English schools, if they were to make the knowledge of English a condition precedent to all Government employment.

27.—*Lord Hardinge's Education Minute.* Lord Hardinge's celebrated Education Minute was hailed from one end of India to another as an immense boon, and nowhere louder than in this Presidency; but, however benevolently meant, it is not too much to say that it has proved wholly illusory. The head of an office justly looks to the most efficient candidate for any vacant situation that presents himself, and if he has to choose between a pains-taking and zealous Oomedwar and a youth fresh from school and quadratic equations, the official who wants his work well done will rarely choose the latter. But if means are afforded to all for acquiring the English language, it would be a very just condition for Government to impose that, after a certain period (say three or four years), no one should be admitted into a Government judicial or revenue office unless he had obtained a creditable certificate at an English school. As all the principal Zillahs of the Presidency have now got such schools, the rule, as relates to them, might be promulgated at once, with the greatest benefit to the interests of education, and without the least inconvenience to the State.

28.—*Suggestions as to particular Departments.* I have exhausted so much space in the above general remarks, that I will confine myself on matters of detail almost entirely to the conclusions at which I have arrived, giving my reasons in the very briefest form.

29.—*Accounts.* I have spent many days in endeavouring to ascertain from our published accounts what the cost of our different establishments is, and in striving to throw them into a shape which will make them intelligible, as they certainly are not at present, either to the Government or to the Board, or to any philanthropist or statesman who may desire to know how the public money is expended in Bombay. I do not profess to be a proficient in book-keeping, but a moment's reflection must convince any inquirer that our accounts ought to present clear views of the cost of establishments, English and Vernacular, the profit and loss on our publishing department, the

maintenance of the Board, &c. &c., in distinct accounts; as also the exact amount of the assistance rendered by Government; yet not one of these facts can be ascertained from our published accounts; and, as instances of the gross errors which they present, I beg to observe that the cost of the Elphinstone Institution is set down in 1846 at Rupees 86,218 at least,* whereas, in point of fact, the true educational charges of that Institution only amount (as will be seen below†) to Rs. 36,995; which places it on a footing with similar Institutions, such as the Benares College (Rs. 41,904), and the Agra College (Rs. 38,195); yet the former charge of nearly a lac of Rupees has been believed hitherto to be the true cost at Bombay.

30.—So, again, an entry appears in the same Report of Rs. 8,718 for "Contingent charges at the Presidency," whereas on analyzing the items of which the accounts are composed, it appears that the three principal items are,—for the Grant College Rs. 4,679 (a sum which ought not to have been defrayed out of the educational grant at all); normal class, Rs. 4,888; and Mofussil superintendence, Rs. 5,430; the two latter items belonging entirely to Vernacular education. But these facts altogether escape notice by the mode in which the accounts are kept.

*See Board's Report for 1846.*

31.—A great portion of the difficulty attending the Board's accounts is traceable to the mode in which the Government has made successive grants of money. First of all, it granted

---

* There is a contingent charge, besides, of Rs. 8,718, which, by the account, would appear to belong, or at least part of it, to the Institution.

† ELPHINSTONE INSTITUTION.

| | | |
|---|---|---|
| Professors | Rs. | 23,869 |
| Do | ,, | 2,500 |
| Peons (a large item) | ,, | 826 |
| Prizes | ,, | 338 |
| Library Books | ,, | 55 |
| Repairs, &c | ,, | 389 |
| Insurance | ,, | 312 |
| Sundries | ,, | 327 |
| Scholarships | ,, | 3,440 |
| | Rupees | 36,995 |

Rs. 20,000 to the Native Education Institution; then Rs. 22,000 to the Professorship Fund; then special grants to the West and Clare Funds; and finally, a grant of Rs. 1,25,000, including all the above grants, for the purposes of education generally. It would simplify extremely the keeping of our accounts, and would enable the Board to introduce economic arrangements, if the Government would consent to grant the Rs. 1,25,000 in one sum, requiring, of course, an annual account from us of the mode in which it is expended; and as the whole sum is now expended (indeed much more) on existing establishments, I apprehend that Government would at once assent to an application of this kind.

32.—The Board would then only require one additional account of the expenditure of the private endowments, such as the Elphinstone and the West and Clare Funds; and a separate and new account should be prepared of the publishing expenses, and stock in trade which the Board has accumulated. I submit in an Appendix a sketch of the accounts as I think they ought to be kept, and probably my colleagues will be able to suggest some improvements.

*Appendix A.*

33.—*Secretary.* For reasons which I have given in a previous Minute, and to the validity of which the Board and Government have assented, I think that the duties of the Board require the undivided time of its Secretary. The expenditure on establishments under the Board, including the two Colleges, amount to at least two lacs a year (which is about the revenue of a small German principality); and the proper duties of the office cannot be efficiently performed unless a gentleman of competent abilities is enabled to take them up as his sole employment. I think that, in the present state of our finances, the Board should give its Secretary Rs. 600 a month, which, in addition to the pay and allowances of a Government Officer, will even now make it one of the most eligible offices at the Presidency to young men in the Military and Medical services; and it may be anticipated that the liberality of Government at a future day will enable the Board to make the salary of the office equivalent to Rs. 1,000 or Rs. 1,200 per month.

34.—*Elphinstone Institution.* The Board should take an early opportunity for fixing the establishment of the Elphinstone

Institution. With the present demand for English education, I do not apprehend that the European establishment can comprise fewer officers than a Principal, two Professors, and at least one Master for the school department. But there are valid reasons for supposing that the establishment should be fixed rather above than below this number. I conceive that a smaller number would not suffice to keep the Institution in its present state of efficiency; but there are two causes continually presenting themselves, which make the presence of an additional Professor necessary,—1st, the casualties arising from sickness; 2nd, the demand for superintendence of other establishments, such as the schools at Poonaa nd Surat, and occasionally the Vernacular schools generally.

35.—*English Schools.* As a general rule, the Board may contemplate their being able to find an efficient Native Schoolmaster for any English school to be established in the Mofussil. Experience of late years has fully proved that we have been able to produce, in the Elphinstone Institution, young men with at least equal acquirements to many of those who have been imported from England; and as Natives of course in their own country do not require anything like the high salaries which are necessary to allure Englishmen to a tropical climate, the economic advantages of employing Natives are obvious, in addition to many other reasons of a more generous character. A conspectus of the studies at English schools ought to be drawn up, and it should include, as an essential branch, the grammatical knowledge and cultivation of the vernacular language, a study which has been introduced with so much good effect during latter years at the Elphinstone Institution.

36.—*Poona and Surat Schools.* An exception, however, to the above rule should be made in behalf of the English schools at Poona and Surat. Observation shows that Bombay does not act as a capital to the Presidency at large. As the seat of Government, and as a flourishing commercial emporium, it is resorted to largely by those who have boons to obtain from the authorities, or commercial enterprises to ply. But I apprehend that as a focus from which moral impressions extend themselves, it has extremely little influence out of the island, except upon the above two classes. For collegiate education, it is certainly not

visited at all by the superior classes of the Mofussil, and no steps, that I am aware, have been taken by Government to render a residence in Bombay either agreeable or instructive to the native gentry. The capitals of Surat and Poona must therefore be looked upon as the centres from which the fruits of European knowledge must be extended through Guzerat and the Deccan, and accordingly the English Schools at those localities should assume the form of Colleges, and should be presided over by some gentleman with educational attainments equal to those of a Professor at the Elphinstone Institution.

37.—*Vernacular Schools.* The improvement and success of our Vernacular schools clearly depend upon three conditions,—1st, the production of a superior race of schoolmasters; 2nd, vigilant superintendence; 3rd, the status of a Puntoji being such as to induce a man of education and ability to seek the calling.

*Conditions of Success.*

38.—*Normal Class.* Under the first head, the Board have occupied themselves unceasingly with considerations and experiments as to the best mode of establishing a Normal class, and our Reports from 1845 downwards describe the direction which our labors have taken for realizing our views. After much practical experience, and careful consideration of details, we resolved finally that the most efficient manner of establishing such a class was by placing at the head of it a gentleman of the highest educational attainments available to the Board, and by allocating stipends to such youths as resolved to devote themselves to the occupation of a teacher. But as such an establishment would require an additional grant from Government, it is not now to be anticipated in the present state of the revenue that such grant will be made; and from inquiries that I have instituted, I think that very efficient schoolmasters for the present state of vernacular education may be supplied without any increased expenditure. The English school at Surat will, I understand, supply masters on salaries ranging from Rs. 20 to Rs. 50 and 70; the Poona school will probably do the same; and the Elphinstone Institution, if salaries from Rs. 40 to 100 are held out, will act as an excellent training Institution for the supply of all such superior vernacular teachers as we can locate beneficially.

39.—*Superintendence.* A careful supervision of the Vernacular schools is one of the main pivots on which the system turns. But here again the Board must adopt more economic arrangements than it formerly proposed. The office of Superintendent ought to be filled by a gentleman fully master of the best European methods of tuition, and at the same time well versed in the languages of the district over which he is placed. But such an officer would require one of the highest salaries under the Board; and it may be doubted whether the talents and knowledge of such a highly-paid officer would not be somewhat thrown away in the supervision of the comparatively few schools of each division. Under all circumstances, it seems most desirable to combine the duties of superintendence with other labors; and although there are evils in withdrawing (even for short periods) the heads of the English schools at Poona and Surat from their specific charges, it appears on the whole the best and most economic arrangement that can be made. The first and third divisions are now under the charge of Dadoba Pandurang, and he appears to perform the duties so carefully that I think he ought to be confirmed in the one, and be appointed acting in the other, but without pay for the latter, as he will only be required to make one circuit in each year. The Guzerat division should be given to the master of the Surat school, as soon as any gentleman who has passed in the Native languages is available for the employment.

40.—*Pensions.* But it is not only increased pay which must be held out to make the office of a Puntoji eligible. We find at the present moment, that the most active and able young men in our service are desirous to obtain employment, even at lower salaries, under Government. The reason, of course, is that in the education line no pensions are open to them. The unwillingness of the Court of Directors to admit the educational service, at the present moment, to the advantages of the pension system, throws upon the Board the *onus* of endeavouring to supply the deficiency from their own resources. It has been suggested to me, by a gentleman high in office, that the scheme in contemplation by uncovenanted servants might be made to embrace the educational service; and I would call the attention of

my colleague, Captain Hart, who is conversant with these matters, to a consideration of this suggestion. But in the mean time, it would be an immense advantage to the interests of education, if the Board were enabled to discharge on small gratuities many inefficient but meritorious teachers, who have been too long in the service to be discharged merely because they are worn out. The Board might carry out this improvement at once, by funding the reserved fund (Rs. 1,07,805) which now stands to their credit, and devoting either the whole or a portion of the interest to such purposes. The sanction of Government is probably required, but should certainly be asked for this step.

41.—*School-houses.* I have always thought it of great importance for the interests both of Government and of education, that commodious, substantial school-houses should be erected in all the considerable towns of the Presidency. If the hand of Government is conspicuously seen in each large village in an erection of some architectural pretension, devoted to the instruction of youth, I do not know any manner in which their endeavours to improve the country can be made more patent to the community. For this purpose small grants, as heretofore,* should be made to village communities, to assist in the erection of such buildings, and the reserved fund (though it has other very important duties to perform) must be drawn upon whenever a fit opportunity offers.

42.—*Establishment of new Schools.* By the general rules of the Board, adopted at its first establishment, Vernacular schools (almost wholly eleemosynary) are to be established on the petition of any town numbering 2,000 souls. Even if these schools were efficient, the present state of the finances of the Board would not allow the rules to be acted upon, and they have in fact been suspended in practice for some time. As to such schools, I think the true principle is—and it applies to all the establishments under the Board—that the expenditure required for them should be derived from those who are able to contribute, and who derive the benefit from them ; and the funds of the Board

* See Letter of Board to Collectors of Ahmednuggur, &c. Report for 1845, p. 45.

should be reserved as much as possible for those who are too poor to pay for education themselves. At the same time, we ought to endeavour to keep alive the spirit which has been awakened for the establishment of vernacular schools. Keeping in view these principles, I have sketched a notice, which will be found in the Appendix, and which if adopted should be inserted in the *Gazette*, and submitted to Government, for the purpose of circulating amongst Collectors and Judges.*

43.—*Depository.* I have pointed out in the sketch accounts in the Appendix the mode in which I think the accounts as to publications, copyrights, and the production and supply of books generally, should be kept. If the Board shall think it right, or compatible with their other duties and demands on their resources, to continue this publishing business, I think it would be desirable to devote a certain sum yearly for outlay, the amount of which should in no case be exceeded. In the mean time, it would be very instructive to obtain a profit and loss account of the whole of the sums laid out on publications since the depository commenced its operations.

44.—*Sanskrit College.* In a separate Minute I have argued strongly for the junction of the Sanskrit College with the Poona English School, and as we have called upon Major Candy for a plan to carry out the junction, I only allude to the subject here to point out how much this scheme facilitates the arrangements for having an efficient College at Poona, and an efficient superintendent of vernacular schools available there, which are so much required for other purposes.

45.—*General Reductions.* I conceive it is most desirable for the Board at the present moment to take a fresh departure, and to square their expenditure with their annual receipts. Our present excess was undertaken with full contemplation of the result, both on the part of the Board and of Government, but it was supposed by the Board that, with the increasing exigencies of Education, there would be no difficulty in getting an additional grant when the time arrived for needing it. But the old obstacles with Government, "*res dura et regni novitas*," afford all-

* Appendix B.

sufficient reasons why our requests should not be complied with at this juncture. In the different arrangements which I have proposed, there is only one additional item of expenditure which I think essential ; this is, the increased salary to our Secretary. I am convinced that sound economy demands it. But reductions may be made in many other quarters: and there occur to me at the moment the English school at Tanna, the drawing class in the Institution, the Purundur village schools,—none of which justify the expenditure bestowed upon them.

46.—*Resumé.* To sum up the principal suggestions in the above long Minute, I will observe that, whatever may be the value of the opinions formed by me, they result entirely from observation of the facts that have come before me during the last six or seven years. I entered upon the inquiry without any preconceived views, and, indeed, altogether ignorant of the opinions which had been promulgated by different authorities; and I may observe, as an instance of the difficulty which exists in India of procuring information, that I have never to this day fallen in with the papers on education of Mr. Macaulay, Sir Charles Trevelyan, and Lord Auckland, who, I believe, are the principal authorities in behalf of English education. Nor have I ever entered into any lengthened speculations as to what the use of the English language in India may be hereafter. If the British connection with India endure for another century, English may possibly become the language of literature, as Greek was with the Jews and others under the Empire ; or it may disappear entirely, except in the mouths of English *employés.* There are authorities and examples both ways. The Normans lost their original language fifty years after their settlement in France ; the Franks did the same, but took a longer period to forget their mother-tongue. The Romans, on the other hand, succeeded in imposing their language, and in extirpating the vernacular tongues from the whole of Spain, Italy, and France, although the two latter countries were densely peopled. Again, Niebuhr, the traveller, records that the Turkish Governor of a Greek town prohibited the

employment of the Greek language under pain of death; and on a second visit, twenty years later, he found that Greek had nearly wholly disappeared. Lastly, it is obvious that India is greatly in need of a *lingua franca*, such as French affords in Europe, Italian in the Levant, and Malay amongst the hundreds of different languages of the Indian Archipelago.* Hindustani supplies the office in many parts of India to the Northward of a diagonal line between Bombay and the Bay of Bengal, but even there imperfectly, as we find the Urdu publications of the North-West almost wholly unintelligible in our Hindustani schools of Bombay; and in the South of India a language of a wholly different family, the Tamil, supplies the place of Hindustani. The English language, therefore, with its uniform written and printed character, and its rich and cheap literature, might gradually assume the beneficial office of a language of inter-communication between different nations, such as we have seen has sprung up spontaneously in divers parts of the world.

47.—But all these are speculations which, though interesting, have not entered into my reasonings. The steady endeavours of Government, and of the Board under Government, should be directed to the point of making educational establishments pay themselves. If those who are above the condition of pauperism can be induced to supply the necessary funds, Government will then be enabled to extend the blessings of education to those who are too poor to pay for it themselves, *and in no other manner can this be done.* To effect this purpose, Government education must be made popular; its practical and beneficial effects must be apparent to all; and the different motives which are in operation to assist in the propagation of schools must be carefully traced out and encouraged.

48.—The facts environing the subject clearly establish to my mind that the grand motive with natives at the present moment

* See W. Humboldt's work on the Kawi-Sprache of Java.

is the acquisition of the English language, with the view to advancement; and I see two obvious modes in which Government may use this motive as a mainspring for the diffusion of sound education in all directions,—1st, by the judicious exercise of patronage to office, as suggested in paras. 26-7; 2nd, by the zealous exertions of the Board of Education to introduce as large a portion of the community as their funds will allow into the realms of European science and speculation.

49.—The other great object with many philanthropists in education,—the cultivation of the vernacular tongues, and the production of a national literature in the numerous distinct languages of India,—I leave to the causes which have produced them elsewhere,—to the slow growth of time, the development of a national taste for letters, and the occurrence of great occasions, when native genius will seek an opportunity of speaking to the masses "each in his own tongue."

Oct. 26, 1849. E. PERRY.

---

## Appendix A.

A 1.

### Board in Account with Education.

The General Abstract should show, in a bird's-eye view, the total amount expended on education, and the sources from which it is obtained; and should also show, in as much detail as a general account will admit, the cost of the different establishments.

It is due to Government that the amount derived from the General Treasury should appear prominently.

*Dr.*

| | |
|---|---|
| Government Grant (General) | |
| Ditto do. for Sanscrit College* | |
| Ditto do. for Grant College* | |
| Private endowments (Elphinstone Fund, &c.) | |
| Interest on funded capital | |
| School fees and subscriptions | |

* In addition to the pecuniary grants from Government, there should be enumerated the pay and allowances of Government Officers who are placed in charge of educational establishments, such as Grant College, Sanscrit College, Secretary to Board, &c.

*Cr.*

I.

*Establishments borne on "General Grant."*

| | | | |
|---|---|---|---|
| A. General Charge. | Establishment of Board | | |
| | Superintendence | | |
| | Contingencies | | |
| | Profit and loss on publication | | |
| B. Presidency Schools. | Elphinstone Institution | | |
| | Vernacular Schools | | |
| C. Mofussil Schools. | *1st Division*, Deccan. | English Schools (2) | |
| | | Vernacular do. (129) | |
| | | Village do. do. (55) | |
| | *2nd Division*, Guzerat. | English Schools (3) | |
| | | Vernacular do. (24) | |
| | *3rd Division*, S. M. Country | English Schools (1) | |
| | | Vernacular do. (55) | |

II.

*Establishments on "Special Grants."*

| | | |
|---|---|---|
| D. | Sanscrit College | |
| E. | Grant Medical College | |

A 2.

BOARD IN ACCOUNT WITH GOVERNMENT.

An account is required between the Board and Government of the expenditure of the Rupees 1,25,000, and I suggest the following form :—

| GOVERNMENT *Dr.* | | | BOARD *Cr.* | | |
|---|---|---|---|---|---|
| GOVERNMENT GRANT. | | | A *English Schools* ..... | | |
| | | | Elphinstone Institution. | | |
| | | | 6 Mofussil ..... | | |
| | | | B *Vernacular Schools*.... | | |
| | | | 6 in Presidency. ..... | | |
| | | | 129 in Deccan ..... | | |
| | | | 55 in S. Mah. Country .. | | |
| | | | 24 in Guzerat ..... | | |
| | | | C *Superintendence* ..... | | |
| | | | D *Publications*..... | | |

A 3.

BOARD IN ACCOUNT WITH ELPHINSTONE FUND.

Separate accounts are then required between the Board and the public as to the different endowed funds. The Subscribers of the three lacs to the Professorship are entitled to know how every Rupee of the interest is expended; and so also of the West and Clare.

---

## APPENDIX B.

BOARD OF EDUCATION.—VERNACULAR SCHOOLS.

The Government Annual Grant in behalf of education having been absorbed by existing establishments, the Board hereby give notice, that no new Schools under Rules 41 to 49 will be established, and the above Rules are hereby repealed.

The Board, however, are still enabled to aid by small pecuniary grants in the establishment of new Schools, wherever they perceive sufficient enlightenment and public spirit to justify an outlay of the public money.

The principle which the Board will keep in view is this : that as the effect of good schools is the improvement of those who resort to them, the funds required to maintain them should be chiefly contributed by those who chiefly benefit by their establishment.

The wealthy native, therefore, in a district, who desires to benefit his fellow-countrymen, and parents who are anxious that their children should advance themselves in life, are the parties to whom the Board principally look for the means of establishing good schools.

The Board, on their part, conceive that the most useful service they can render is to train up good schoolmasters. In every Government school which is established, they desire to locate a master who can communicate information new and interesting to the community; who can apply all that is good in the native system, and at the same time enforce all that is useful in European methods of instruction. To such schoolmasters they desire to attribute a rate of pay which will give them the consideration requisite to perform the above duties, and to induce a body of men to undergo the necessary training for the office.

The Board therefore invite communications from Sirdars, Setts, and other leading members of native society, who desire to establish schools in their neighbourhood, stating:

1st. The monthly sum the community will raise in behalf of the school.

2nd. The population of the district, and the number of scholars likely to attend.

3rd. The description of school-house proposed to be used, or the amount subscribed to build a good school-house.

4th. The willingness of the petitioners to furnish the ordinary school-house furniture, and that the school-goers shall pay one Anna monthly.

When satisfactory information is afforded on these points,—

1st. The Board will furnish as good a Schoolmaster as the sum subscribed will enable them to procure, and they will also defray a portion of the salary.

2nd. They will contribute a sum equal to that which has been subscribed for building a school-house, if the plans to be furnished by the Board are adopted.

3rd. They will place the funds derived from the Anna fee in the hands of the Local Committee, to be expended by them on school purposes.

4th. When an individual supplies the necessary funds for the sake of durhm, the Board will take means to perpetuate his name.

# Appendix No. IV.

*Tabular Statement showing the Amount of Fees received, during the Year* 1849, *from the Elphinstone Institution and Government Vernacular Schools at the Presidency, and from the English and Vernacular Schools in the Districts.*

| | Rs. a. p. | Rs. a. p. |
|---|---|---|
| **Presidency.** | | |
| Elphinstone Institution | 6,582 0 0 | |
| Government Vernacular Schools | 932 2 0 | |
| | | 7,514 2 0 |
| **English Schools.** | | |
| Poona | 436 0 0 | |
| Ahmednuggur | 259 0 0 | |
| Surat | 1,184 0 0 | |
| Ahmedabad | 473 0 0 | |
| Broach | 281 0 0 | |
| Tanna | 50 0 0 | |
| Rutnagherry | 265 8 0 | |
| Dharwar | 217 0 0 | |
| | | 3,165 8 0 |
| **Vernacular Schools.** | | |
| *1st Division.* | | |
| In the Collectorate of Poona | 302 0 0 | |
| Ditto of Ahmednuggur | 1,004 3 0 | |
| Ditto of Sholapoor | 348 6 0 | |
| Ditto of Khandeish | 381 9 0 | |
| | | 2,036 2 0 |
| *2nd Division.* | | |
| In the Collectorate of Surat | 494 8 0 | |
| Ditto of Broach | 266 13 0 | |
| Ditto of Kaira | 352 12 0 | |
| Ditto of Ahmedabad | 456 11 0 | |
| | | 1,570 12 0 |
| *3rd Division.* | | |
| In the Collectorate of Tanna | 391 12 0 | |
| Ditto of Rutnagherry | 895 1 0 | |
| Ditto of Belgaum | 513 4 0 | |
| Ditto of Dharwar | 644 7 0 | |
| | | 2,444 8 0 |
| | Rupees.... | 16,731 0 0 |

The fees from the Institution, from all the English schools, and from the vernacular schools at the Presidency, are carried to the General Fund on account of Education.

The fees from the vernacular schools in the districts are disposed of differently. One-fourth is given to the masters of the different schools, provided the annual examination is satisfactory: the remainder is disposed of in repairing school-houses, in providing books for the school libraries, in gratuities to masters and monitors, or in any other way which the School Committee and Superintendent may consider more desirable.

# Appendix No. V.

## Dr. *Board of Education in Account with Education.* Cr.

| 1849. | | Rs. | a. | p. |
|---|---|---|---|---|
| Apr. 30th | Government Annual Grant (General) .... | 1,25,000 | 0 | 0 |
| „ „ | Ditto do. for Sanskrit College .... | 19,184 | 0 | 0 |
| „ „ | Ditto do. for Grant Medical College | 15,394 | 1 | 3 |
| | PRIVATE ENDOWMENTS.* | | | |
| „ „ | Interest on the Funded Capital ..... | 19,179 | 13 | 2 |
| „ „ | School Fees and Subscriptions ..... | 11,742 | 10 | 3 |
| „ „ | Profit and loss on publication ..... | 2,795 | 11 | 2 |
| | Total, Rupees.... | 1,93,296 | 3 | 10 |

| 1849. | | | Rs. | a. | p. |
|---|---|---|---|---|---|
| | I. *Establishments borne on "General Grant."* | | | | |
| Apr. 30th | A General Charge. | Establishment of Board of Education | 7,097 | 5 | 10 |
| | | Superintendence..... | 6,600 | 9 | 6 |
| „ „ | B Presidency Schools. | Elphinstone Institution ..... | 48,163 | 3 | 4 |
| | | Vernacular Schools ..... | 9,548 | 15 | 7 |
| „ „ | C Mofussil Schools. — 1st Division, Deccan. | English Schools (2). | 13,331 | 10 | 0 |
| | | Vernacular do. (71). | 21,746 | 9 | 9 |
| | | Village do. do. (55). | 2,890 | 0 | 0 |
| | 2nd Division, Gujerat. | English Schools (2). | 10,771 | 2 | 0 |
| | | Vernacular do. (35). | 13,264 | 4 | 1 |
| | 3rd Division, S.M. Country. | English Schools (3). | 7,786 | 6 | 0 |
| | | Vernacular do. (54). | 13,779 | 4 | 3 |
| | II. *Establishments on "Special Grant."* | | | | |
| „ „ | D | Sanskrit College..... | 16,251 | 6 | 6 |
| „ „ | E | Grant Medical College..... | 15,394 | 1 | 3 |
| | | | 1,86,624 | 14 | 1 |
| | | Balance..... | 6,671 | 5 | 9 |
| | | Total, Rupees.... | 1,93,296 | 3 | 10 |

* Elphinstone Professorship Fund, West Scholarship Fund, Clare Scholarship Fund, and Elphinstone Institution Fund.

(Errors Excepted.)

(Signed) E. Perry, President.
„ John Warden.
„ Jugonath Sunkersett.

(Signed) Framjee Cowasjee.
„ Mahomed Ibrahim Muckba.

*Bombay, 30th April* 1849.

DR. *Board of Education in Account with Government Annual Grant of Rupees* 1,25,000. CR.

| 1849. | | Rs. a. p. | 1849. | | Rs. a. p. |
|---|---|---|---|---|---|
| | | | | *English Schools.* | |
| Apr. 30th | Government Annual Grant ..... | 1,25,000 0 0 | Apr. 30th | Elphinstone Institution..... | 23,179 6 8 |
| | | | " " | 7 Mofussil Schools ..... | 31,889 2 0 |
| | | | | *Vernacular Schools.* | |
| | | | " " | 8 Vernacular Schools in the Presidency ..... | 8,631 11 7 |
| | | | " " | 71 ditto in the Deccan ..... | 21,746 9 9 |
| | | | " " | 55 Purandhar Village Schools..... | 2,890 0 0 |
| | | | " " | 35 ditto in Gujerat..... | 13,264 4 1 |
| | | | " " | 54 ditto in S. M. Country..... | 13,779 4 3 |
| | | | " " | Superintendence..... | 6,600 9 6 |
| | | | " " | Publications ..... | 1,476 4 7 |
| | | | | | 1,23,457 4 5 |
| | | | | Balance..... | 1,542 11 7 |
| | Total, Rupees.... | 1,25,000 0 0 | | Total, Rupees.... | 1,25,000 0 0 |

(ERRORS EXCEPTED.)

(Signed) E. PERRY, President.
" JOHN WARDEN.
" FRAMJEE COWASJEE.
" JUGONATH SUNKERSETT.
" MAHOMED IBRAHIM MUCKBA.

*Bombay, 30th April* 1849.

# ELPHINSTONE PROFESSORSHIP FUND.

DR. *Abstract Account of Receipts and Disbursements, from the 1st January to the 31st December* 1849. CR.

| 1849. | | Rs. | a. | p. | 1849. | | Rs. | a. | p. | Rs. | a. | p. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Jan. 1st | Balance of last year's Account..... | 5,505 | 12 | 1 | Dec. 31st | Salary of the Secretary ..... | 2,400 | 0 | 0 | | | |
| Dec. 31st | Annual Allowance .....22,000 0 0 | | | | „ „ | Ditto of Professors and Masters ..... | 22,692 | 2 | 7 | | | |
| „ „ | Interest on the Funded Capital .....15,898 10 4 | | | | „ „ | Ditto of Normal Scholars ..... | 1,830 | 0 | 0 | | | |
| | | | | | „ „ | Ditto of Clerks ..... | 1,709 | 0 | 0 | | | |
| | | 37,898 | 10 | 4 | „ „ | Ditto of Peons ..... | 288 | 0 | 0 | | | |
| | | | | | | | | | | 28,919 | 2 | 7 |
| | | | | | „ „ | Stationery ..... | 133 | 3 | 0 | | | |
| | | | | | „ „ | Sundries ..... | 65 | 10 | 0 | | | |
| | | | | | „ „ | Binding Books for Library and Office Records..... | 47 | 12 | 0 | | | |
| | | | | | „ „ | Government Agent's Commission & Fees. | 42 | 11 | 6 | | | |
| | | | | | „ „ | Mr. Richardson's Bill for printing Mr. Orlebar's Work on Mathematics..... | 1,763 | 11 | 8 | | | |
| | | | | | | | | | | 2,053 | 0 | 2 |
| | | | | | „ „ | Invested on 5 per cent. Government Loan. ..... | | | | 3,000 | 0 | 0 |
| | | | | | | Balance, viz. | | | | | | |
| | | | | | | In the Bank of Bombay ..... | 9,428 | 6 | 3 | | | |
| | | | | | | In hand..... | 3 | 13 | 5 | | | |
| | | | | | | | | | | 9,432 | 3 | 8 |
| | Total, Rupees.... | 43,404 | 6 | 5 | | Total, Rupees.... | | | | 43,404 | 6 | 5 |

*Bombay*, 31*st December* 1849.

(ERRORS EXCEPTED.)

(Signed) M. STOVELL, Secretary.

We the undersigned have examined this Account, and do find a Balance in favor of the Elphinstone Professorship Fund, amounting to Rupees nine thousand four hundred and thirty-two, Annas three, and Pies eight.

(Signed) JOHN WARDEN. (Signed) MAHOMED IBRAHIM MUCKBA.

„ JUGONATH SUNKERSETT. „ FRAMJEE COWASJEE.

## CLARE SCHOLARSHIP FUND.

Dr. *Abstract Account of Receipts and Disbursements, from the 1st January to the 31st December* 1849. Cr.

| 1849. | | | Rs. a. p. | 1849. | | Rs. a. p |
|---|---|---|---|---|---|---|
| Jan. 1st | Balance of last year's Account..... | | 88 2 0 | Dec. 31st | Scholarship Allowance..... | 2,011 0 2 |
| Dec. 31st | Annual Allowance from Government..... | 1,632 0 0 | | „ „ | Government Agent's Commission..... | 3 5 6 |
| | | | | | | 2,614 5 8 |
| „ „ | Interest on the Funded Capital..... | 1,343 10 6 | 2,975 10 6 | | Balance in the Bank of Bombay ..... | 449 6 10 |
| | Total, Rupees.... | | 3,063 12 6 | | Total, Rupees.... | 3,063 12 6 |

*Bombay, 31st December* 1849.

(Errors Excepted.)

(Signed) M. Stovell, Secretary.

We the undersigned have examined this Account, and do find a balance in favor of the Clare Scholarship Fund, amounting to Rupees four hundred and forty-nine, Annas six, and Pies ten.

(Signed) John Warden.
„ Jugonath Sunkersett.
„ Mahomed Ibrahim Muckba.
„ Framjee Cowasjee.

## WEST SCHOLARSHIP FUND.

DR. *Abstract Account of Receipts and Disbursements, from the 1st January to the 31st December* 1849. CR.

| 1849. | | Rs. a. p. | 1849. | | Rs. a. p. |
|---|---|---|---|---|---|
| Jan. 1st | Balance of last year's Account..... | 975 6 10 | Dec. 31st | Scholarship Allowance ..... 1,680 0 0 | |
| Dec. 31st | Government Annual Allowance..... | 1,124 0 0 | ,, ,, | Government Agent's Commission and Fees..... 3 9 2 | |
| ,, ,, | Interest on the Funded Capital ..... | 1,037 12 8 | | | 1,683 9 2 |
| | | | ,, ,, | Invested in 5 per cent. Government Notes. .... | 1,000 0 0 |
| | | | | | 2,683 9 2 |
| | | | | Balance in the Bank of Bombay..... | 453 10 4 |
| | Total, Rupees.... | 3,137 3 6 | | Total, Rupees.... | 3,137 3 6 |

*Bombay*, 31*st December* 1849.

(ERRORS EXCEPTED.)

(Signed) M. STOVELL, Secretary.

We the undersigned have examined this Account, and do find a balance in favor of the West Scholarship Fund, Amounting to Rupees four hundred and fifty-three, Annas ten, and Pies four.

(Signed) JOHN WARDEN.
,, JUGONATH SUNKERSETT.
,, MAHOMED IBRAHIM MUCKBA.
,, FRAMJEE COWASJEE.

10573

DR. *Receipts and Disbursements on Account of Books in the*

| 1849. | | Rs. | a. | p. | Rs. | a. | p. |
|---|---|---|---|---|---|---|---|
| Dec. 31st | Books sold as follows, viz. | | | | | | |
| „ „ | Government District Schools | 10,724 | 9 | 6 | | | |
| „ „ | Regimental Schools | 4,233 | 6 | 0 | | | |
| „ „ | Grant Medical College | 3,446 | 3 | 8 | | | |
| „ „ | School Boys and private Individuals | 8,548 | 14 | 0 | | | |
| „ „ | Branch Depository at Dharwar | 475 | 0 | 0 | | | |
| „ „ | Ditto at Belgaum | 379 | 6 | 0 | | | |
| „ „ | Ditto at Ratnaghorry | 57 | 9 | 2 | | | |
| „ „ | Ditto at Ahmedabad | 54 | 14 | 0 | | | |
| „ „ | Ditto at Broach | 114 | 5 | 0 | | | |
| | | | | | 28,034 | 3 | 4 |
| „ „ | Advance recovered on account of School Materials supplied to Government and Regimental Schools | | | | 734 | 5 | 9 |
| | Total, Rupees | | | | 28,768 | 9 | 1 |

*Bombay* 31*st December* 1849.

# No. VI.

*Depository of the Elphinstone Institution for the year* 1849. CR.

| 1849. | | | Rs. | a. | p. | Rs. | a. | p. |
|---|---|---|---|---|---|---|---|---|
| Dec. 31st | | Books purchased, viz. | | | | | | |
| „ | „ | From the Poona Sanskrit College | 4,263 | 15 | 0 | | | |
| „ | „ | Do. Mr. J. M. Richardson | 10,682 | 6 | 5 | | | |
| „ | „ | Do. Calcutta School Book Society | 1,323 | 15 | 0 | | | |
| „ | „ | Do. Agra School Book Society | 169 | 2 | 4 | | | |
| „ | „ | Do. Delhi College | 271 | 13 | 0 | | | |
| „ | „ | Do. in Bombay | 1,648 | 2 | 6 | | | |
| | | | | | | 18,359 | 6 | 3 |
| | | *New Editions printed.* | | | | | | |
| „ | „ | 1,000 Copies of Bodh Katha (Gujerati) | 150 | 0 | 0 | | | |
| „ | „ | 1,000 do. of Elements of Geometry (Mahrahti) | 1,000 | 0 | 0 | | | |
| „ | „ | 1,000 do. of Treatise on Cleanliness | 148 | 4 | 0 | | | |
| „ | „ | 2,000 do. of Moral Maxims | 200 | 0 | 0 | | | |
| | | | | | | 1,498 | 4 | 0 |
| „ | „ | Binding Books for sale | 166 | 8 | 0 | | | |
| „ | „ | Depositary's Commission | 1,827 | 14 | 1 | | | |
| | | | | | | 1,994 | 6 | 1 |
| „ | „ | Charges for translating the following books: | | | | | | |
| | | Bodh Katha (Gujerati) | 40 | 0 | 0 | | | |
| „ | „ | Life of Columbus, (Gujerati) | 203 | 14 | 0 | | | |
| „ | „ | Do. do. (Mahrathi) | 244 | 12 | 0 | | | |
| „ | „ | Amount paid on Account of School Materials | 1,087 | 14 | 6 | | | |
| | | | | | | 1,576 | 8 | 6 |
| | | Total, Disbursement | | | | 23,428 | 8 | 10 |
| | | Stock of Books in hand on the 1st Jan. 1849 | 64,338 | 1 | 0 | | | |
| | | Ditto ditto 31st December 1849 | 61,793 | 11 | 11 | | | |
| | | Diminution in the Stock of Books | 2,544 | 5 | 1 | | | |
| | | Net profit of the Depository | 2,795 | 11 | 2 | | | |
| | | Balance in Cash | | | | 5,340 | 0 | 3 |
| | | Total, Rupees | | | | 28,768 | 9 | 1 |

(ERRORS EXCEPTED.)

(Signed) M. STOVELL, Secretary.

# Appendix No. VII.

No. 584 of 1851.

General Department.

To

The Secretary to the Board of Education.

Sir,

The Right Honorable the Governor in Council has perused with much interest the Report of the Board of Education for the year 1849, submitted with your letter No. 312, dated the 27th May last.

2. The views entertained by Government on the general subject of Native education having very recently been communicated to the Board at considerable length, His Lordship in Council does not consider it necessary, in reviewing the present Report, to do more than briefly notice the more prominent points, according to the order in which they stand.

3. Government has already acknowledged its sense of the valuable services rendered by Colonel Jervis and Dr. Burnes as members of the Board. I have now to express the regret of the Right Hon'ble the Governor in Council at the retirement of Professor Harkness, to whose persevering efforts, ably seconded as they have been by the other Professors, must in a great measure be attributed the flourishing state of the Elphinstone Institution, as detailed in para. 6 of the Board's Report.

4. His Lordship in Council entirely approves of the election of Mr. Green to fill the post vacated by Mr. Harkness.

5. The Board's subsequent remarks on the Elphinstone Institution are viewed upon the whole as satisfactory. The Right Hon'ble the Governor in Council approves of the innovation which the Board have introduced into the present Report, as noticed in the 17th para. and has perused the performances to which their remarks relate with much satisfaction.

6. His Lordship approves of the Board's proceedings in connection with the English School at Tanna. The inhabitants of that town, I am desired to state, should be distinctly made to understand, in the event of any future application, that no English School will again be re-established there, until they have given satisfactory evidence that they are prepared to support it, both by contributing towards the Master's salary, and by providing for the regular attendance of their children.

7. The favorable account given by Mr. Green of the Vernacular Schools at the Presidency, has been received by His Lordship in Council with much gratification. His Lordship does not, however, consider that it would be advisable to discontinue these Schools at present, a course which the Board, in the 37th para. of their Report, would seem inclined to recommend.

8. The Report of Dadoba Pandoorung on the District Vernacular Schools of the 1st Division is interesting and satisfactory. That a vast majority of the children of the working classes should be removed from the schools as soon as they can read and write a little, as he has stated, is no more than experience elsewhere would lead the observer to expect. The man who is compelled to gain his livelihood and support his family by his manual labour, can ill afford to dispense with the services and assistance which may be rendered to him by his children. The fact that in most cases children so situated are withdrawn from School at an early period, is not peculiar to this country, and cannot be regarded as a reasonable cause for despondency.

9. No remarks appear to be called for in relation to the 2nd Division. The importance which Government attaches to the subject of normal classes, and to the placing of the trained masters who may be produced by such means in a superior condition of life, has been sufficiently noticed in the Government remarks upon the Board's Report of 1848.

10. Neither do the observations of the Board on the Schools of the 3rd Division call for remark. The Right Hon'ble the Governor in Council is glad to observe that the vernacular Schools, as also the number of scholars attending them, have increased as contrasted with their numbers in 1848.

11. His Lordship in Council observes with satisfaction the

efforts made in the cause of vernacular education, as detailed in the 62nd paragraph of the Report.

12. In regard to the amalgamation of the Poona Sanskrit College and the English School, I am directed to refer to my letter of the 8th instant, No. 513.

13. The Report, which has been separately submitted to Government by Dr. Morehead, on the state and prospects of the Grant Medical College, and the proceedings of the various Officers connected with the College, in the course of the year, ably supports the high reputation of that very efficient Institution. The services gratuitously rendered by Surgeons Peele and Coles, as Professors of Midwifery and Medical Jurisprudence, are highly creditable to these gentlemen, and have been properly noticed by the Board, with suitable commendation.

14. The thanks of Government are also especially due to Dr. Morehead, and Professors Peet and Giraud, for their unwearied and valuable labours.

15. The account of the book collections of the Elphinstone Institution seems to suggest an extension of the depositories to all Stations where native libraries are found to have taken vigorous root. Government generally approves of the Board's remarks on this subject, as well as of their proceedings.

16. The Right Hon'ble the Governor in Council observes with pleasure that the Board acknowledge their obligation to the German Missionaries.

17. His Lordship also trusts that the Deccan and Goojerat Vernacular Societies, which are yet in their infancy, may be productive of all the good that is hoped from them.

18. In conclusion, I am desired to convey to the Members of the Board the acknowledgments of Government for the zeal and efficiency with which they have discharged their important duties during the year reported upon.

19. In particular, the Hon'ble the President of the Board is requested to accept the cordial thanks of Government for the able exposition of his views on the subject of native education, which is annexed to the present Report.

20. At the same time I am instructed to refer the Board to my letter dated the 24th April last, and its enclosure, and to

state that Government continues to entertain the same views as formerly in regard to the principles on which native education should be conducted.

I have the honor to be,

Sir,

Your most obedient Servant,

(Signed) J. G. LUMSDEN,

Secretary to Government.

*Bombay Castle, 12th February* 1851.

# ANNUAL REPORT

OF THE

# GRANT MEDICAL COLLEGE

**BOMBAY.**

THIRD YEAR.—SESSION 1848-49.

---

BOMBAY:
AMERICAN MISSION PRESS.
T. GRAHAM, PRINTER.

M.DCCC.XLIX.

# CONTENTS.


Page.

ANNUAL REPORT ..... 1

APPENDICES.

(A). Grant Medical College. Session 1848-49.

From the 15th June to the 1st November. Lectures ..... 21

Examinations ..... 22

From the 1st November to the 15th March. Lectures ..... 22

Examinations ..... 22

Course of Study for the 1st year Students ..... 23

——————————— 2nd year Students ..... 23

——————————— 3rd year Students ..... 24

(B). Abstract of Roll-calls for the Session 1848-49 ..... 25

(C). Syllabus of Lectures on Materia Medica, by Herbert Giraud, M. D. Edin. ..... 26

(D). Memorandum of the course of Lectures on the Practice of Medicine, delivered in the Grant Medical College, in the Session of 1848-49, by C. Morehead, M. D. ..... 50

(E). Memorandum of the Subjects of Instruction in the course of Clinical Medicine, in the Grant Medical College for the Session of 1848-49 ..... 53

(F). Memorandum of the course of Surgery ..... 57

(G). Return of Diseases treated in the Clinical Surgical Ward of the Jamsetjee Jejeebhoy Hospital, from the 1st July 1848 to the 15th April 1849 ..... 58

(H). Capital Operations performed in the presence of the Students ..... 60

(I). Notification. Scholarships open for competition to the Students of the College at the close of the Session 1848-1849 ..... 61

(J). Annual Examination of the Students of the Grant Medical College ..... 63

Page.

(K). Questions on Anatomy ..... 64
——— in Chemistry ..... 65
——— in Physiology ..... 65
——— in Practice of Physic ..... 66
——— on Surgery ..... 66

(L). Answers to the questions in Anatomy, Chemistry, Physiology, and Practice of Medicine ..... 68

(M). Students of 1846-47. Tabular Statement exhibiting the classification of 3rd year Students, in accordance with the result of the Examinations held from the 22nd March to 5th April 1849 ..... 90

Students of 1847-48. Tabular Statement exhibiting the classification of 2nd year Students, in accordance with the result of the Examinations held from the 22nd to 30th March and 4th April 1849 ..... 91

Students of 1848-49. Tabular Statement exhibiting the classification of 1st year Students, in accordance with the result of the Examinations held from 22nd, 23rd, 28th, 29th, 30th March and 5th April ..... 91

(N). Donations to the Museum ..... 92

(O). Statement of the Accounts of the Anderson, Farish, and Carnac Scholarship Funds ..... 95

# ANNUAL REPORT

OF THE

# GRANT MEDICAL COLLEGE

BOMBAY.

THIRD YEAR. SESSION 1848–49.

---

## PROFESSORS.

C. MOREHEAD, M.D.,

Professor of the Institutes and Practice of Medicine.

JOHN PEET, Esq., Professor of Anatomy and Surgery.

H. GIRAUD, M.D., Professor of Chemistry and Materia Medica.

---

1. At the examination held in April 1848, twelve Candidates presented themselves for admission into the College. Seven were found qualified, and of these, five have joined the Institution and two have withdrawn.

2. The number of Students attending during the Session has amounted to 22; of these 10* were Hindus, 9 Parsees, and 3 Portuguese. Of the 22 Students, 4 were Free, and 18 Stipendiary.

* Of the following castes :—

| | |
|---|---|
| 3 Shenvis. | 1 Vysha. |
| 3 Pulsyas. | 1 Purbhu. |
| 1 Brahmin. | 1 Khutri. |

3. The course of instruction during the Session, has been conducted strictly in accordance with the Prospectus published at the opening of the Session, and which forms Appendix (A.) of this Report.

4. Appendix (B.) is an abstract of the roll-calls held during the Session, and shews the character for regularity or irregularity of attendance of every Student of the College.

ANATOMY.

5. 108 Lectures and Demonstrations in Anatomy have been given, and the order, laid down in the Prospectus of the course appended to the last Report, has been followed.

6. The Professor of Anatomy reports, that the attention of the Students to the study of Practical Anatomy has been very satisfactory and has exceeded that of any former year; some of the Students having acquired a facility and neatness in making minute and difficult dissections, which is very creditable to them.

7. The opportunities of studying Practical Anatomy have been ample, and Mr. Peet observes, "Each Student, with two or three exceptions, has in the course of the year studied practically, nearly the whole subject, keeping his attention however more particularly fixed upon those parts which, from want of time or other circumstances, he was unable to examine in the preceding Sessions. In this way during the last two Sessions scarcely a part of the body has escaped careful and minute examination by the Students."

Bhawoo Dajee, Mr. Carvalho, Mr. Lisboa, Merwanjee Sorabjee, and Burjorjee Dorabjee, are mentioned by Mr. Peet in terms of commendation. Atmaram Pandurung has, during this Session as well as the preced-

ing one, been of much assistance to the Professor of Anatomy by the steady and zealous manner in which he has prepared the illustrations required for the Anatomical demonstrations.

### Chemistry.

8. This course has consisted of 72 Lectures delivered in accordance with the Syllabus appended to the last Report.

Dr. Giraud, however, has been careful to make such additions and alterations as the continually advancing state of Chemical Science must always render necessary. The subject of Voltaic Electricity, in particular, received more attention during this Session than heretofore.

9. The course of Practical Chemistry was conducted in the same manner as in the preceding Session. The system pursued was explained in the last Report of the College. The Professor of Chemistry reports favorably of the progress made by Shamrao Narayan, Narayan Dajee, Rustomjee Byramjee, and Palonjee Pestonjee.

10. Narayan Dajee officiated as Chemical Assistant during the Session and acquitted himself in a creditable manner and to the satisfaction of the Professor.

### Institutes of Medicine.

11. This course, consisting of 72 Lectures, was delivered in accordance with the Syllabus submitted with the last Report.

12. The progress made by the senior Students in a knowledge of Physiology and the general doctrines of Pathology and Therapeutics has been, on the whole, satisfactory. To the junior Students many of the subjects were evidently of difficult comprehension.

### Materia Medica and Botany.

13. The course of Materia Medica consisted of 72 Lectures. A detailed Syllabus of the order in which the different parts of the course have been arranged forms Appendix (C.) of this Report.

### Practice of Medicine.

14. 71 Lectures were delivered on the Practice of Medicine. In Appendix (D.) will be found a general statement of the arrangement of the course, and of the subjects which have been taught. It is my intention at the close of next Session to prepare a more detailed Syllabus of this course.

### Clinical Medicine.

15. Thirteen Students have attended the course of Clinical Medicine, and of these, seven have officiated in rotation as Clinical Clerks.—Bhawoo Dajee, Atmaram Pandurung, and Sebastian Carvalho, are deserving of much commendation for the assiduity and care with which they have discharged the duties of Clinical Clerks during the Session.

16. As this is the first Session in which Clinical Medicine has been taught in the College, it is expedient that I should explain the system of instruction which has been followed.

17. The Jamsetjee Jejeebhoy Hospital is adapted for the accommodation of 240 Males and 60 Females, and the number of sick annually treated has hitherto amounted to about 3,700 in-patients, and 5,400 Dispensary out-patients. One ward of this Hospital with accommodation for 20 sick, was set aside as a Clinical Medical Ward. The Professor of Medicine daily examined all the patients admitted into Hospital in the

course of each day, and selected those medical cases most appropriate for the instruction of the Students, and sent them to the Clinical Ward. This ward was visited daily at 7 o'clock A. M. and the Professor and the Students were engaged in it till 8 o'clock, and sometimes to a later hour. The cases of the patients were on admission taken by the Clinical Clerks, of whom there were always four on duty. The statement of the case was corrected by the Professor, then read to the Students by the Clinical Clerk, and the subsequent daily reports and prescriptions were dictated by the Professor at the bedside of the sick—and written down by the Clerks in the College and Hospital Diaries, and also by those other Students who were keeping cases on their own accounts. The opportunity was frequently taken, during the morning visit of pointing out and explaining to the class the symptoms of interest and the indications of cure in the diseases before them, and also of interrogating them on the course of treatment pursued, and of inviting them to offer suggestions in regard to it. The circumstance of the great proportion of the patients being ignorant of the English language, gives a facility in conducting Clinical instruction in this manner, at the beside of the sick, to an extent not generally available in Medical Schools. These Clinical conversations and interrogations at the bedside of the sick will, I believe, prove more instructive to the Students than the formal Clinical Lectures delivered in the College. I have reason to hope that, as the Students increase in knowledge, and acquire a greater familiarity with their duties as Clinical Clerks, there will be more scope for this kind of instruction, and yet no necessity for decreasing the

number of patients under treatment at one time in the Clinical Ward.

18 In addition to instruction communicated as now explained, 33 Clinical Medical Lectures were delivered in the College, and in conducting these Lectures the following system was observed. All the cases discharged from the ward during the interval between the Lectures, were made the subject of comment. They were grouped according to the nature of the disease, and it was not unusual to preface the practical remarks suggested by the cases by a short recapitulation of the characteristic features of the disease, of which the cases were instances. Sometimes instead of a formal Lecture, the points of practical interest in the cases were brought forward through interrogation of the Students. This occasional substitution of examination for Lecture, in the Clinical Course, has the double advantage of keeping alive the attention of the Students, and of giving the Professor a better idea of the degree to which he has succeeded in carrying the Students along with him in their practical studies.

19. In Appendix (E.) will be found still further details regarding the course of Clinical Medicine. These have been given with the view of shewing the nature and extent of the practical studies in which the Students have been engaged in Medicine during the past Session.

### Surgery.

20. The course of Surgery consisted of 66 Lectures. In Appendix (F.) will be found the Professor's Memorandum of the subjects taught during the Session, and of the arrangement observed.

21. Mr. Peet in his Report states, "In addition to the instruction given in these Lectures, Operative Surgery, and Surgical Anatomy were, during the latter part of the Session, taught in the dissecting room, on every alternate Saturday. The greater number of the more important operations were performed on the dead subject—in the presence of the Students, and the Surgical relations of the parts concerned in each operation were at the same time demonstrated. It is anticipated, however, that this part of the Surgical Course will be more complete in all future Sessions.

CLINICAL SURGERY.

22. The Professor of Surgery has submitted the following Report on the Course of Clinical Surgery.

"Clinical Surgery has been taught both in the College and Hospital. The plan followed in the College has been to select two or more of the most interesting cases admitted during the week, to read over to the Students assembled in the Lecture-room the notes of these cases, and afterwards both by question and explanation to endeavour to bring the chief points of interest prominently under their notice.

23. "In the Hospital one ward capable of accommodating 20 patients, has been set apart as the Clinical Surgical Ward. The patients received into this ward have, as a general rule, been selected by myself from the daily Hospital admissions. Four Students in rotation have been appointed Dressers for periods of three months, and a certain number of patients have been placed under the care of each Dresser. Notes of all the cases have, with a few exceptions, been taken by the Dressers on admission. At the Hospital visit the notes thus taken have been read over at the bedside of

the patients, and all necessary alterations and additions made. The case was then carefully copied by the Dresser, to whom the charge of the patient had been entrusted. In like manner, notes of the progress of each case have been dictated at the bedside of the patient during the visit. The greater number of the fractures after their first adjustment have, under my superintendence, been managed by the Dressers, and all the wounds and ulcers have been regularly dressed by them. Opportunities have been taken, so far as time would permit, of pointing out to the Students the more prominent changes observed in each case, and, by question and conversation, attempts have been made to render the impression as fixed as possible. On a careful review of the progress made during the Session, I feel little hesitation in expressing my belief that it has been quite equal to what might reasonably have been expected, when the number of other subjects which required a share of attention is kept in mind."

24. A table of the Diseases treated in the Clinical Surgical Ward forms Appendix (G.), and a list of Surgical operations performed in the presence of the Students, forms Appendix (H.) of this Report.

### Examinations for Honors.

25. In the month of July 1848, the Notification which forms Appendix (I.) of the Report, was published in the Government Gazette. It intimates the conditions on which the Carnac, Farish and Anderson Scholarships were to be awarded at the end of the Session. The prospectus which forms Appendix (J.) will explain the character of the examinations held for the award of these Scholarships and other Honors.

26. The written questions proposed in Anatomy,

Chemistry, Physiology and Materia Medica, Surgery and Practice of Medicine, will be found in Appendix (K.), and the answers of the most proficient Students in Anatomy, Chemistry, Physiology and Practice of Medicine, have been arranged in Appendix (L.). They were written apart from all books of reference, and are now published without correction or alteration of any kind.

27. The Scholarships notified for competition were awarded to the following Students. Those competed for by the *senior Students* who had completed the third year of their studies.

1st. The Carnac Scholarship of Rupees 20 monthly for the greatest proficiency in the Principles and Practice of Medicine and Surgery to ANUNTA CHUNDROBA.

2nd. The Anderson Scholarship of Rs. 20 monthly for the greatest proficiency in Anatomy and Physiology to BHAWOO DAJEE. But Bhawoo Dajee, now, as on two former occasions, generously declined the pecuniary advantages of the Scholarship. He however received an Honorary Certificate of its award, and a prize of Books (the Library of Medicine) suitably inscribed. And the Anderson Scholarship was re-awarded to J. C. LISBOA, the next proficient in Anatomy and Physiology.

3rd. The Carnac Scholarship of Rupees 20 monthly for the greatest proficiency in Materia Medica and Practical Pharmacy, to ANUNTA CHUNDROBA; but to him had been already awarded the Scholarship for the greatest proficiency in Medicine and Surgery, and, according to the terms of the competition, the successful competitor for more than one Scholarship shall, in addition to the award of one Scholarship, receive some honorary

mark of distinction, but the second Scholarship shall pass down to the proficient in the next degree. Accordingly to Anunta Chundroba a prize of books has been presented, inscribed in a manner that shall commemorate the honorable circumstances under which they have been received, and the Scholarship has been awarded to the next proficient in Materia Medica and Practical Pharmacy,—S. D. CARVALHO.

4th. The Farish Scholarship of Rupees 15 monthly for the second degree of proficiency in the principles and practice of Medicine and Surgery to S. D. CARVALHO. But to Mr. Carvalho, a Scholarship has been already adjudged. The Farish Scholarship has therefore been conferred on the proficient in the next degree, ATMARAM PANDURUNG.

The Scholarships competed for by the *junior Students*, those who have completed the first and second year of their studies, have been thus awarded.

1st. The Anderson Scholarship of Rs. 20 monthly for the greatest proficiency in Anatomy and Chemistry, to NARAYAN DAJEE.

2nd. The Farish Scholarship of Rupees 15 monthly for the greatest proficiency in Anatomy, was not awarded. Sudashiva Hemraj, the next in Anatomy to Narayan Dajee, did not come up to the minimum standard fixed on, and was moreover disqualified for the Scholarship from defective knowledge of Chemistry, Physiology, and Materia Medica.

3rd. The Anderson Scholarship of Rs. 15 monthly for the greatest proficiency in Chemistry both theoretical and Practical, to SHAMRAO NARAYAN.

The Farish Scholarship of Rs. 10 monthly open to competition of the first year's Students, only, for the

greatest proficiency in the subjects of their study during the Session, was awarded to RUSTOMJEE BYRAMJEE. To this promising young student was also awarded a prize of books sent by Sir Jamsetjee Jejeebhoy for presentation to some deserving Student of the College. It was awarded to Rustomjee Byramjee for regularity of attendance.

To PALONJEE PESTONJEE also a first year's Student, a prize of books, Christison's Dispensatory, was awarded by the Board of Education for regularity of attendance and industrious habits.

28. Of the senior Students who have unsuccessfully competed for these Scholarships, I have much pleasure in mentioning PAUL FRANCIS GOMEZ, MERWANJEE SORABJEE, and MUNCHERJEE SORABJEE, as very meritorious and promising Students.

29. The promotion of the following stipendiary Students has been recommended and sanctiond.

*From the 2nd to the 3rd Class.*

| | |
|---|---|
| Burjorjee Dorabjee. | Nasserwanjee Bomanjee. |
| Muncherjee Sorabjee. | Dossabhoy Bazunjee. |
| Merwanjee Sorabjee. | Ardaseer Jamsetjee. |

*From the 1st to the 2nd Class.*

| | |
|---|---|
| Palonjee Pestonjee. | Withul Anunt. |
| Rustomjee Byramjee. | |

30. Appendix (M.) is an abstract of the results of the examinations. It exhibits the Students classed in the order and degree of their proficiency in the several branches of their studies during the Session.

SIR JAMSETJEE JEJEEBHOY MEDICAL BOOK FUND AND MEDICAL PRIZE FUND.

31. The following letter, which was made known to

the Students of the College after the introductory Lecture, at the opening of the Session, has been already submitted to the Board of Education.

*To the Superintendent of the Grant Medical College*

"Sir,—For some time past, it has been with me a subject of consideration how I could best assist in bringing about those results aimed at by the Government in the establishment of the Grant Medical College. These results being, as I understand them, the formation of a class of educated and conscientious Medical Practitioners, from whose establishment in different parts of the country much comfort and good to the people generally may be looked for.

My first idea was to hold out inducement to young men to follow the Medical Profession by granting to them further pecuniary assistance during the period of their Studies in the College. But, on reflection I recollected that in other Countries in which a Scientific System of Medical Education existed, this Profession was selected by Members of those Classes of the Community, who are willing and able to pay largely for learning a Profession, which, when practised by industrious, persevering and conscientious individuals, is almost certain of proving ultimately a lucrative one; and the exercise of which, in alleviating pain and suffering, must I should think be very gratifying to those who follow it. At the same time I could not but be sensible that some years must probably elapse before experience of the advantages of Medical education will prove inducement sufficient to its being followed on the same terms in this country, as in those in which it has been long established. It is doubtless considerations such as these which render the already established

system of gratuitous instruction, assistance by stipends, and the endowment of Scholarships in the Medical College, measures very necessary to quicken the good results aimed at by the Government and desired by all who wish to ameliorate the condition of the people.

With every allowance for these views, it has seemed to me that direct pecuniary assistance may be carried too far, and with the effect of retarding the ultimate establishment in this country of a respectable and educated Medical Profession on its only true basis, viz. a sense of the advantages attending it.

Under these views, and believing that the direct pecuniary assistance already afforded has been carried to its useful limit, I have determined not to afford assistance to the Students in the way of grants of money, but to propose another mode of facilitating their Studies, and of marking my sense of their value and importance.

It is, as I have been informed, very essential that the Students should be well supplied with text-books during their Studies, and be induced to form a well selected Medical Library, to enable them to extend and continue their Studies, after they have ceased to be College Students and have become Medical Practitioners.

Medical books are originally expensive and the expenses attending their transmission to this country, add to the costs. It will therefore I believe prove of much benefit to the Students, if means can be devised for enabling them to supply themselves with books, not gratuitously but at prices very considerably reduced.

With this view I propose to pay into the Government Treasury the sum of Rupees ten thousand (Rs. 10,000), in expectation that Government with their

usual liberality will allow interest at 6 per cent. This sum to constitute a permanent fund, the interest of which (six hundred Rupees Rs. 600) I should wish to be disbursed at the discretion of the Superintendent of the College, subject to the control of the Board of Education, in assisting the deserving Students during their Studies, and, for the first few years after they have left the College, in providing themselves with Medical Books and Surgical Instruments.

Being apprehensive that the remarks which I have just made and the proposal to endow a fund for aiding in the purchase of books, may lead to the supposition that I am not fully sensible of the fact that the Medical Profession is not to be acquired from books alone, I am desirous of guarding against such a misapprehension, and at the same time of impressing upon the Students that the Profession, for which they are qualifying, is a practical one and not to be learnt from books alone.

I therefore also propose to pay into the Government Treasury, a further sum of Rs. 5000, (five thousand) in expectation that Government will allow 6 per cent interest. This sum to constitute a permanent fund, the interest of which (three hundred rupees Rs. 300 annually) is to be expended in the purchase of a suitable prize, or any other recompense or reward, to be awarded to the Student of the 4th or 5th year of his Studies, who evinces the greatest familiarity and knowledge of the practical details of Medicine and Surgery. I mean such knowledge as can only be acquired by assiduous observation of and assistance afforded to the Sick in the Hospital and Dispensary.

I shall feel obliged by your communicating this letter and the proposals which it contains to the Board of

Education for transmission to the Hon'ble the Governor in Council."

I have the honor to be,
Sir,
Your most obedient Servant,
JAMSETJEE JEJEEBHOY.

*Bombay, 7th June,* 1848.

32. The Hon'ble the Court of Directors have fully concurred in the anticipations entertained by Sir Jamsetjee Jejeebhoy, of the advantages likely to accrue from an endowment of the above nature, but have been unable to allow interest at a higher rate than 5 per cent.

33. Towards the close of the Session the following letter was received by me from VENAYEK GUNGADHUR SHASTREE, Esq., a native gentleman well known to the Board as an enlightened Student of Physical and Chemical Science.

*7th April,* 1849.

To

DR. C. MOREHEAD,

*Supt. Grant Medical College.*

"SIR,—As one who watches the spread of Science in this country with intense interest, I am anxious to present the following prizes to the Students of the Grant Medical College, in the hope that they may contribute in some degree to promote their zeal in the pursuit of their noble studies.

You will oblige me by adjudging the following prize of books to the Student, who evinces the greatest knowledge of Chemistry, Theoretical and Practical. I

should wish that, in determining this point, regard be particularly had to dexterity in manipulation and practical acquaintance with the subject as shewn by the late examinations, as well as by the appearance usually made during the past Session.

Brande's Manual of Chemistry, handsomely bound in calf and gilt.

Turner's Elements of Chemistry.

Faraday on Chemical Manipulation.

It is my intention also to present at the end of the next Session, the following prize to the Student, who, in addition to a good knowledge of Materia Medica as taught in the College, shews the greatest acquaintance with Indian Plants. May I suggest that the latter point be determined by a special examination in writing, during which the Students should be required to describe the Botanical characters, relations, &c. of the living specimens of such indigenous Plants as may be placed before them.

Pereira's Materia Medica, vols. 2.

Roxburgh's Flora Indica vols. 3.

I have the honor to be,
Sir,
Your most obedient Servant,
VENAYEK GUNGADHUR SHASTREE

34. The prize thus presented for the greatest knowledge of Theoretical and Practical Chemistry has been awarded to NARAYAN DAJEE.

REID SCHOLARSHIP.

35. On the occasion of the presentation of Scholarships and other prizes at the close of the Session, the

Meeting was addressed by CURSETJEE JAMSETJEE, Esq. to the following effect:—

"On behalf of the Reid Testimonial Committee, and as its Secretary, I take the present opportunity of intimating to the President of the Board of Education and to this Meeting that the Committee have communicated to Government the circumstance of a public subscription having been raised by the friends of the Hon'ble Mr. Reid, and of a resolution having been adopted to appropriate a portion of these subscriptions to the endowment of a Scholarship Fund, in connection with the Medical College.

"The interest which it is well known Mr. Reid ever displayed in the promotion of Native Education induced the desire on the part of the Subscribers to the Testimonial to have his name connected with this College, and it is anticipated that by this means the course of native improvement will in some degree be advanced.

"I need only say, further, how gratified I feel at being the channel of making this communication; and I gladly take occasion to state now publicly my belief (and I am sure many of my countrymen will concur with me) that the greatest benefits will result from the successful progress of this Institution. I would at the same time express my earnest hope that the Students of the College will appreciate the interest that is manifested in their welfare, and will continue to pursue their studies with zeal and industry, in the full assurance that they will have the support, countenance and liberal encouragement of their countrymen."

LIBRARY.

36. Since last Report, 238 volumes have been added to the Library. These include the 208 volumes adverted to in the 30th Para. of last Report, as having been recommended to the Board of Education for purchase.

ANATOMICAL MUSEUM.

37. The preparations which have been added to the Museum during the past Session with the names of the Donors will be found in Appendix (N.). On reference to which it will be found that Bhawoo Dajee, Merwanjee Sorabjee, Burjorjee Dorabjee and Narayan Dajee have shewn a praiseworthy interest in the prosperity of the Institution to which they are indebted for their Medical Education. The donations presented to the Museum by these industrious Students are creditable to their ingenuity and manual dexterity.

38. The Statements of the accounts of the CARNAC, FARISH and ANDERSON Scholarships for the year 1848-49 constitute Appendix (O.) of the Report.

39. I have only in conclusion to observe that the building alluded to in the 40th Paragraph of my last Report, has been completed, and the comfort and convenience of the Students much increased by this additional instance of the liberal consideration of the Government.

C. MOREHEAD,
*Supt. G. M. College.*

# APPENDICES.

# APPENDICES

TO THE

# ANNUAL REPORT OF THE GRANT MEDICAL COLLEGE.

THIRD YEAR. SESSION 1848-49.

## APPENDIX (A).

## GRANT MEDICAL COLLEGE.

### SESSION 1848—49.

*From the 15th June to the 1st November.*

*Lectures.*

On Thursday the 15th June, an Introductory Lecture will be delivered by Mr. Peet at 12 o'clock.

ANATOMY.—*Mr. Peet*..... { Monday.... / Wednesday. / Friday..... } at 1 P. M.

will commence on Friday the 16th June.

CHEMISTRY.—*Dr. H. Giraud*.... { Tuesday..... / Thursday... } at 12 o'clock

will commence on Tuesday the 20th June.

MATERIA MEDICA.—*Dr. H. Giraud*..... { Monday..... / Wednesday.. } at 12 o'clock.

will commence on Monday the 19th June.

INSTITUTES OF MEDICINE.—*Dr. C. Morehead* ..... { Tuesday.... / Thursday .. } at 3 P. M.

will commence on Tuesday the 20th June.

SURGERY.—*Mr. Peet* ..... { Tuesday..... / Saturday. .. } at 1 P. M

will commence on Tuesday the 20th June.

PRACTICE OF MEDICINE.—*Dr. C. Morehead* ..... { Monday..... / Friday ..... } at 3 P. M.

will commence on Friday the 16th June.

CLINICAL SURGERY.—*Mr. Peet*.. Thursday .. at 2 P. M.
will commence on Thursday the 6th July.

CLINICAL MEDICINE. — *Dr. C. Morehead* ..... Wednesday . at 3 P. M.
will commence on Wednesday the 5th July.

PRACTICAL CHEMISTRY.—*Dr. H. Giraud* ..... Friday .... at 11 A. M.
will commence on Friday the 23rd June.

*Examinations.*

| | | |
|---|---|---|
| *Anatomy*..... | Thursday.... | 1 P. M. |
| *Chemistry*..... | Saturday .... | 11 A. M. |
| *Materia Medica*..... | Saturday .... | 12 o'clock. |
| *Institutes of Medicine* ..... | Saturday .... | 3 P. M. |

---

*From the 1st November to the 15th of March—the following alterations in the hours of Lectures and Examinations will take place.*

*Lectures.*

| | | |
|---|---|---|
| ANATOMY ..... | Monday.... Wednesday.. Friday. .... | at 12 o'clock. |
| CHEMISTRY ..... | Tuesday. .. Thursday .. | 12 o'clock. |
| MATERIA MEDICA ..... | Monday.... Wednesday.. | 10 A. M. |
| INSTITUTES OF MEDICINE..... | Tuesday ... Thursday... | 1 P. M. |
| SURGERY ..... | Tuesday ... Thursday .. | 10 A. M. |
| PRACTICE OF MEDICINE ..... | Monday.... Friday .... | 1 P. M. |
| CLINICAL SURGERY ..... | Saturday .... | 12 o'clock. |
| CLINICAL MEDICINE ..... | Wednesday .. | 1 P. M. |
| PRACTICAL CHEMISTRY ..... | Friday ..... | 11 A M. |

*Examinations.*

| | | |
|---|---|---|
| *Anatomy*..... | Friday..... | 10 A. M. |
| *Chemistry*..... | Saturday..... | 11 A. M. |
| *Materia Medica*. ..... | Saturday..... | 10 A. M. |
| *Institutes of Medicine*..... | Saturday .... | 1 P. M. |

*Practical Anatomy.* The dissecting season will commence on the 1st November and terminate on the 15th March, and the Students will be occupied with practical Anatomy daily during this period, between the hours of 2 P. M. and 5 P. M.

*Clinical Medicine.* The Clinical Medical Ward in the Hospital will be visited daily at 7 A. M. commencing on the 1st July.

*Clinical Surgery.* The Clinical Surgical Ward in the Hospital will be visited daily at 11 A. M. commencing on the 1st July.

The 1st and 2nd year Students—will attend the Hospital daily at 7 A. M. in rotation for periods of two months, and will be engaged in compounding and dispensing Medicines, and acquiring a practical knowledge of the application of bandages and surgical dressing.

*Roll Calls.* A general Roll-call of the Students will take place in the College daily, at 10 A. M. and 4 P. M.

A Roll-call will also take place before the commencement of each Lecture and Examination, as well as in the Clinical Wards.

*Course of Study for the 1st year Students.*

| | |
|---|---|
| MONDAYS..... | Anatomical Lecture. |
| TUESDAYS ..... | Chemical Lecture. |
| WEDNESDAYS ... | Anatomical Lecture.<br>Written Exercise in Chemistry. |
| THURSDAYS .... | Chemical Lecture.<br>Examination in Anatomy. |
| FRIDAYS..... | Anatomical Lecture.<br>Practical Chemistry. |
| SATURDAYS. .... | Examination in Chemistry.<br>Written Exercise in Anatomy. |

During the hours when not engaged in the Lecture room, the Students will be occupied in reading and note-taking in the Library.

*Course of Study for 2nd year Students.*

| | |
|---|---|
| MONDAYS ..... | Anatomical Lecture.<br>Lecture on Materia Medica. |
| TUESDAYS ..... | Lecture on Chemistry.<br>Lecture on Institutes of Medicine. |
| WEDNESDAYS.... | Lecture on Anatomy.<br>Lecture on Materia Medica. |

| | |
|---|---|
| THURSDAYS .... | Lecture on Chemistry.<br>Lecture on the Institutes of Medicine.<br>Anatomical Examination. |
| FRIDAYS..... | Lecture on Anatomy.<br>Practical Chemistry. |
| SATURDAYS ..... | Examination in Chemistry.<br>Examination in Materia Medica.<br>Examination in the Institutes of Medicine. |

Practical Anatomy daily, from 1st November to 15th March.

On the 1st Friday of every month, written questions in Anatomy ; on the 2nd Friday, questions in Chemistry ; on the 3rd Friday, questions in the Institutes of Medicine ; on the 4th Friday, questions in Materia Medica,—will be proposed. The answers to be written by the Students when most convenient to themselves, and to be delivered to the respective Professors at the Lecture hours on the succeeding Tuesday.

*Course of Study for 3rd year Students.*

| | |
|---|---|
| MONDAYS ..... | Lecture on Anatomy.<br>Lecture on Materia Medica.<br>Lecture on Practice of Medicine. |
| TUESDAYS ..... | Lecture on the Institutes of Medicine.<br>Lecture on Surgery. |
| WEDNESDAYS .... | Lecture on Anatomy.<br>Lecture on Materia Medica.<br>Lecture on Clinical Medicine. |
| THURSDAYS. .... | Lecture on the Institutes of Medicine.<br>Lecture on Clinical Surgery.<br>Anatomical Examination. |
| FRIDAYS ..... | Lecture on Anatomy.<br>Lecture on Practice of Medicine. |
| SATURDAYS..... | Lecture on Surgery.<br>Examination in Materia Medica.<br>Examination in the Institutes of Medicine. |

*Clinical Wards.*—To be attended daily. Practical Anatomy daily, from 1st November to 15th March.

C. MOREHEAD,
*Bombay, June 10th, 1848.* *Supt. G. M. College.*

# APPENDIX (B).

*Abstract of Roll-calls for the Session* 1848-49.

| No. | Names. | Absent. | Leave. | Sick. | Total. | |
|---|---|---|---|---|---|---|
| 1 | Bhawoo Dajee | 3 | 37 | 29 | 69 | |
| 2 | Atmaram Pandurung | 7 | 9 | 16 | 32 | |
| 3 | Paul Francis Gomes | 7 | 57 | 6 | 70 | |
| 4 | Furdunjee Jamsetjee | 4 | 51 | 22 | 77 | |
| 5 | Anunta Chundroba | 4 | 11 | 121 | 136 | |
| 6 | Sebastian A. D. Carvalho | 1 | 13 | 171 | 185 | |
| 7 | J. C. Lisboa | 2 | 41 | 135 | 178 | |
| 8 | Burjorjee Dorabjee | 1 | 11 | 144 | 156 | |
| 9 | Dossabhoy Bazunjee | 1 | 4 | 53 | 58 | |
| 10 | Muncherjee Sorabjee | 30 | 5 | 41 | 76 | 26 "absent" were *late* at Morning Hospital Roll-calls. |
| 11 | Merwanjee Sorabjee | 2 | 1 | 182 | 185 | |
| 12 | Ardaseer Jamsetjee | 3 | 10 | 78 | 91 | |
| 13 | Naserwanjee Bomanjee | .. | 14 | 44 | 58 | |
| 14 | Narayan Dajee | .. | 18 | .. | 18 | |
| 15 | Shamrao Narayan | 1 | 21 | 98 | 120 | |
| 16 | Sudashew Hemraj | 5 | 27 | 40 | 72 | |
| 17 | Balcrushna Chintoba | 1 | 34 | 12 | 47 | |
| 18 | Balcrushna Sukharam | 8 | 50 | 9 | 67 | |
| 19 | Hurichund Chundroba | 22 | 46 | 86 | 164 | |
| 20 | Wittul Anunt | 4 | 10 | 69 | 83 | |
| 21 | Palunjee Pestonjee | 2 | .. | 21 | 23 | |
| 22 | Rustomjee Byramjee | 1 | 1 | 1 | 3 | |

Number of Roll-calls during the Session 1,555.

C. Morehead,
*Supt. G. M. College.*

# APPENDIX (C).

## SYLLABUS OF LECTURES

ON

## MATERIA MEDICA.

BY

HERBERT GIRAUD, M.D., EDIN.

In this course of Lectures the subject of Materia Medica is treated of in conformity with the Natural History-arrangement of Medicinal substances. In the first place, the Elementary Bodies, and their Mineral Compounds, classified after the Electro-chemical Hypothesis, are brought under notice. Next, as an introduction to the study of the Vegetable Materia Medica, Lectures are delivered on Structural, Physiological, and Systematic Botany.

The articles of the Vegetable Materia Medica are then treated of after an arrangement founded on the Natural System of Decandolle ;—each natural order being Botanically described:—its Geographical distribution pointed out:—and references made to the important plants included in it, which are either indigenous to, or cultivated in India.

The course concludes with an account of the Animal Materia Medica.

I.

**Lecture I.**

Introduction to the study of Materia Medica.

**Lecture II.**

Pharmaceutic Chemistry and the Operations of Pharmacy.

**Lecture III.**

The nature and mode of preparation of the various Pharmaceutic Preparations.

### Lecture IV.

The Methods of Prescribing Medicines.

### Lecture V.

Explanation of the terms employed to denote the several Physiological and Therapeutic actions of Medicines.

## II.

### Mineral Materia Medica.

The Inorganic Medicinal Substances are described in the following manner: 1st. Their natural conditions. 2nd. Their mode of preparation for use. 3rd. Their Physical and Chemical Properties. 4th. Their Physiological and Therapeutic actions. 5th. Their mode of administration and their doses. 7th. Their Officinal Preparations.

### Lecture VI.

Oxygen and Hydrogen.

Water. Distilled. Rain. Spring. River. Well. Lake. Marsh. Sea Water.

Mineral Waters. *Class I.* Chalybeate or Ferruginous Waters.

*Ord.* 1. Carbonated Chalybeates. *Ord.* 2. Sulphated Chalybeates.

*Class II.* Sulphureous or Hepatic Waters.

*Class III.* Acidulous or Carbonated Waters.

*Class IV.* Saline Waters.

*Ord.* 1. Purging Saline Waters. *Ord.* 2. Brine Waters. *Ord.* 3. Calcareous Waters. *Ord.* 4. Alkaline Waters. *Ord.* 5. Siliceous Waters.

### Lecture VII.

Baths.

1. Hot Air Bath. 2. Vapour Bath. 3. Cold Bath. 4. Tepid Bath. 5. Warm Bath. 6. Hot Bath. 7. Shower Bath 8. The Douche. 9. Medicated Baths.

### Lecture VIII.

Sulphur.

*Unguentum Sulphuris. Unguentum Sulphuris Comp.*

Sulphur and Oxygen.

Acidum Sulphuricum. *Acidum Sulphuricum Dilutum.*

## Lecture IX.

PHOSPHORUS AND OXYGEN.

*Acidum Phosphoricum Dilutum.*

NITROGEN AND OXYGEN.

Acidum Nitricum. *Acidum Nitricum Dilutum.*

## Lecture X.

IODINE.

*Tinctura Iodinii Comp. Unguentum Iodinii Comp.*

BROMINE.

## Lecture XI.

CHLORINE.

CHLORINE AND HYDROGEN.

Acidum Hydrochloricum. *Acidum Hydrochloric : Dilutum. Acidum Nitro-Hydrochloricum.*

## Lecture XII.

CARBON.

Carbo Ligni. Carbo Animalis. *Carbo Animalis Purif.*

HYDROGEN AND CARBON.

Petroleum. Creasotum *(contains also Oxygen).*
*Unguentum Creasoti* Succinum. *Oleum Succini.*

## Lecture XIII.

HYDROGEN AND NITROGEN.

Ammonia. *Liquor Ammoniæ Fortior. Liquor Ammoniæ. Tinctura Ammoniæ Comp. Linimentum Ammoniæ.*

Ammoniæ Carbonas. *Spiritus Ammoniæ. Spiritus Ammoniæ Fœtidus. Spiritus Ammoniæ Aromaticus.*

Ammoniæ Sesquicarbonas. *Liquor Ammoniæ Sesquicarb. Liniment. Ammoniæ Sesquicarb.*

Ammoniæ Hydrochloras.

Ammoniæ Acetas. *Liquor Ammoniæ Acetatis.*

## Lecture XIV.

CARBON, OXYGEN, HYDROGEN.

ALCOHOL.

Spiritus Rectificatus. Spiritus Tenuior.

Ardent Spirits. *Brandy. Rum. Gin. Whiskey. Arrack.* Wines. *Port. Sherry. Madeira. Claret. Champaigne.* Beer. Ale. Porter.

## Lecture XV.

ETHER.

Ether Sulphuricus. *Spiritus Etheris: Salphurici Comp.* Oleum Ethereum. *Spiritus Etheris Nitrici.*

ACETIC ACID.

Acidum Aceticum. Acetum Distillatum.

## Lecture XVI.

CARBON. NITROGEN. HYDROGEN.

HYDROCYANIC ACID.

Acidum Hydrocyanicum Dilutum.

## Lecture XVII.

POTASSIUM.

Potassæ Hydras. *Potassa cum Calex. Liquor Potassæ.*

Potassii Iodidum. *Liquor Potassii Iodidi Comp.*

Potassii Bromidium. Potassæ Carbonas Impura.

Potassæ Carbonas. *Liquor Potassæ Carbonatis.*

Potassæ Bicarbonas. *Liquor Potassæ Effervescens.*

Potassii Sulphuretum. Potassæ Sulphas. Potassæ Bisulphas. Potassæ Nitras. Potassæ Chloras.

Potassæ Tartras. Potassæ Bitartras. Potassæ Acetas.

## Lecture XVIII.

SODIUM.

Sodæ Hydras. Sodæ Carbonas Impura. Sodæ Carbonas.

Sodæ Sesquicarbonas. *Liquor Sodæ Effervescens.*

Sodii Chloridum. *Liquor Sodæ Chlorinatæ.*

Sodæ Biboras. Sodæ Sulphas. Sodæ Phosphas.

Sodæ Potassio-Tartras. Sodæ Acetas.

## Lecture XIX.

BARIUM.

Baryta. Barytæ Carbonas. Barii Chloridum. *Liquor Barii Chloridi.*

CALCIUM.

Calx. Calcis Hydras. *Liquor Calcis.* Calcis Carbonas. Calcis Carbonas Dura (marmor). Calcis Carbonas Friabilis (Creta)

*Creta Preparata. Mistura Cretæ. Pulvis Cretæ Compositus. Pulv. Cretæ Comp. c. Opio. Confectio Aromatica.* Calx Chlorinata. Calcii Chloridum. *Liquor Calcii Chloridi.*

## Lecture XX.

### Magnesium.

Magnesia. Magnesiæ Carbonas. Magnesiæ Sulphas.

### Aluminum.

Alumen. (Sulphas Aluminæ et Potassæ). Alumen Exsiccatum. *Liquor Aluminis Comp.*

## Lecture XXI.

### Iron.

Ferri Ramenta. Ferri Sesquioxidum. Ferri Iodidum. *Syrupus Ferri Iodidi. Tinctura Ferri Sesquichloridi.* Ferri Ammonio-Chloridum. *Tinct. Ferri Ammon-Chloridi.* Ferri Sulphas. *Ferri. Carbonas Sacch ratum. Pilulæ Ferri Compositæ. Mistura Ferri. Comp.* Ferri Acetas. Ferri Percyanidum. Ferri Potassio Tartras.

## Lecture XXII.

### Zinc.

Zinci Oxydum. *Unguentum Zinci.* Zinci Chloridum. Calamina Calamina Preparata. *Ceratum Calaminæ.* Zinci Sulphas.

### Copper.

Cupri Sulphas. Cupri Ammonio-Sulphas. *Liquor Cupri Ammonio-Sulph.* Œrugo (Diacetas Cupri Impura) Linimentum Œruginis.

## Lecture XXIII.

### Lead.

Plumbi Oxydum (Semivitreum.) *Emplastum Plumbi. Emplastum Resinæ. Unguentum Plumbi Comp.* Plumbi Oxydum Hydratum. Plumbi Chloridum. Plumbi Iodidum. *Unguentum Plumbi Iodidi* Plumbi Carbonas. Plumbi Acetas. *Ceratum Plumbi Acetatis. Liquor Plumbi Diacetatis. Liquor Plumbi Diacetatis Dilutus. Ceratum Plumbi Compositum.*

### Bismuth.

Bismuthi Trisnitras.

### Tin.

Pulvis Stanni.

### Lecture XXIV.

ANTIMONY.

Antimonii Oxydum. *Pulvis Antimonii Comp. Pulvis Jacobi.* Antimonii Sesquisulphuretum. Antimonii Oxysulphuretum. Antimonii Potassio-Tartras. *Vinum Antimonii Potassio-Tartratis. Unguentum Antimonii Potassio-Tart.*

ARSENIC.

Acidum Arseniosum. *Liquor Potassæ Arsenitis.*

### Lecture XXV.

MERCURY.

Hydrargyrum. *Hydrargyrum cum Creta. Pilulæ Hodrargyri. Unguentum Hydrargyri Fortius. Unguentum Hydrargyri Mitius. Ceratum Hydrar. Comp. Linimentum Hydrargyri Comp. Emplastium Hydrargyri. Emplastrum Ammoniaci cum Hydrargyro.* Hydrargyri Oxydum. *Lotio Nigra.*

### Lecture XXVI.

Hydrargyri Binoxydum. Hydrargyri Nitrico Oxydum. *Unguentum Hydrar. Nitrico-Oxydi.* Hydrargyri Iodidum. *Pilulæ Hydrargyri Iodidi. Unguentum Hydrargyri Iodidi.* Hydrargyri Biniodidum. *Unguent. Hydrar. Biniodidi.* Hydrargyri Chloridum (Calomel). *Pilulæ Hydrargyri Chloridi Comp.*

### Lecture XXVII.

Hydrargyri Bichloridum (Corrosive Sublimate). *Liquor Hydrargyri Bichloridi.* Hydrargyri Ammonio-Chloridum. *Unguentum Hydrargyri Ammonio-Chloridi.* Hydrargyri Bisulphuretum. Hydrargyri Sulphuretum cum Sulphure. *Unguentum Hydrargyri Nitratis.* Hydrargyri Bicyanidum.

SILVER.

Argenti Nitras. *Liquor Argenti Nitratis.* Argenti Cyanidum.

## III.

## BOTANY.

### Lecture XXVIII.

Introduction to the study of Botany.

### Lecture XXIX.

THE ELEMENTARY VEGETABLE TISSUES. Vegetable Cell Development. Cellular Tissue. *Parenchyma. Prosenchyma. Inen-*

*chyma. Bothrenchyma. (Spiral Vessels and Ducts). Cinenchyma.* Contents of the Tissues. *Schlerogen. Amyloid. Fecula. Chlorophyle. Chromule. Raphides. Gum. Sugar. Dextrine. Resin, &c. &c.*

## Lecture XXX.

The Epidermis. Cuticle. Stomata. Hairs. Strings. Prickles.

COMPOUND ORGANS.

EMBRYO. { Axile System, or Axis.. { Ascending.. Plumule. / Descending. Radicle. } Horizontal, Centrifugal, or Medullary System.. ..... Cotyledous. }

Stem.

Collar

Root..... { Caudex. / Spongioles. }

Forms of Roots. *Nodose. Conical or Tap Root. Moniliform. Testiculate. Coraline. Tuberous. Fasciculate.*

## Lecture XXXI.

Stems. *Exogenous. Endogenous. Acrogenous. Thallogens.* Structure of Exogenous Stems and their mode of growth. *Pith or Medulla. Medullary Sheath. Medullary Rays.*

Wood. { *Duramen or Heart Wood.* / *Alburnum.* }

CAMBIUM.

Bark { *Endoplæum or Liber.* / *Epiplæum.* / *Mesoplæum.* / *Epidermis.* }

Forms of undergound Stems. *Tuber. Rhizoma. Cormus. Creeping Stem.*

## Lecture XXXII.

Formation of Leaf Buds. Laws of their developement.

*Bulbs. Bulblets.*

*Nodes. Internodes.*

Vernation. *Convolute. Involute. Plicate. Revolute. Equitant.*

Structure and mode of growth of Leaves.

*Stipule. Petiole. Lamina. Midrib.*

Leaves of Exogens. Leaves of Endogens.

Arrangement of Leaves on Stems. *Alternate. Opposite. Verticillate.*

FORMS OF LEAVES.

Simple Leaves. *Orbicular. Ovate. Lanceolate. Oblong. Peltate. Reniform. Oblique. Sagittate. Hastate. Cuneate. Triangular. Palmate.*

Compound Leaves. *Ternate. Digitate. Pedate. Pinnate. Bipinnate. Tripinnate. Bijugate.*

## Lecture XXXIII.

Motions of the Fluids of Plants.
The Respiratory and Assimilative Functions of Plants.

## Lecture XXXIV.

The effects of Physical Agents on the Growth of Plants. *Manures. Alternation of Crops.*

## Lecture XXXV.

FORMATION OF FLOWER BUDS.

*Bracts or Bracteæ.* *Bractlets or Bracteolæ.*
*Spatha.* *Involucrum.*
*Peduncle. Pedicel. Rachis.*

Forms of Inflorescence. *Terminal and Solitary. Axillary and Solitary. Raceme. Spike. Spadix. Amentum. Capitulum. Umbel. Corymb. Panicle. Thyrsus. Cyme.*

Œstivation or Præfloration. *Valvate. Imbricate. Alternate Convolute. Induplicate. Plicative. Vexillary.*

Flowers may be *Dimerous. Trimerous. Tetramerous. Pentamerous.*

FLORAL ENVELOPES.

Calyx; Sepals. *Polysepalous, or Polyphyllous. Monosepalous, or Gamosepalous, or Monophyllous.*

The Calyx may be *Superior. Inferior. Galeate. Ringent. Calyptrate. Calcarate. Double.*

Corolla; Petals. *Polypetalous. Monopetalous.*

The Corolla may be *Labiate. Calceolate. Ringent. Papilionaceous. Campanulate. Funnel-shaped.*

## Lecture XXXVI.

Perianth or Perigone. *Naked or Achlamydeous.*

*Limb. Tube. Unguis.*

An Irregular Flower. An Unsymmetrical Flower. Stamens. Stamina. Androœceum.

Filament. Anther.

Arrangements of Stamens. *Hypogynous. Perigynous. Epigynous. Didynamous. Tetradynamous. Monadelphous. Diadelphous. Polyadelphous. Gynandrous.*

The Anther. *Its Lobes. Connective. Valves. Syngenesious Anthers.*

Pollen Grains. Pollen Tubes. Fovilla.

THE DISK.

Pistil or Gynæceum ..... { Stigma. Style. Ovary or Ovarium.

Gynophore. Carpels. *Apocarpous. Syncarpous.*

Placenta. *Marginal. Central. Parietal.*

## Lecture XXXVII.

The Ovule. Podosperm. Nucleus. Primine. Secondine.

Positions of the Nucleus. *Orthotropal. Anatropal. Camptotropal.*

Foramen or Exostome. Embryo. Suspensor.

The Impregnation of the Ovule, and the Developement of the Embryo. Hybrids.

The Fruit. Pericarp..... { *Epicarp.* *Sarcocarp.* *Endocarp or Putamen.*

Columella. Commissure.

Sutures. *Dorsal. Ventral.* Pericarp. *Dehisent. Indehiscent.*

Dehiscence. *Septicidal. Loculicidal. Transverse. Porous. Septifragal.* Fruit. *Simple. Multiple.*

## Lecture XXXVIII.

Fruits formed of a single Carpel *Follicle. Legume. Drupe. Achœnium. Caryopsis. Utricle.*

Fruits formed of several Carpels. *Siliqua. Silicula. Nut. Cremocarp. Nuculanium. Pyxis. Etærio. Berry. Orange. Pome Pepo. Pelaustris. Cone. Pine Apple. Fig.*

THE SEED.

Funiculus. Arillus. Hilum or Umbilicus. Testa. Coma. Micropyle. Raphe. Albumen or Perisperm. Embryo.

## Lecture XXXIX.

SYSTEMATIC BOTANY.

General Remarks on Artificial and Natural Systems of Classification.

The Linnean Sexual System.

The Analytic Method as applied to the determination of Orders, Genera and Species.

## Lecture XL.

The Principles of the Natural Systems of Jussieu, Lindley, and De Candolle.

## IV.

VEGETABLE MATERIA MEDICA.

The substances of the Vegetable Materia Medica are treated of in the following order: 1st. The Botanical Characters of the Plants yielding officinal substances. 2nd. The Physical and Chemical properties of those substances. 3rd. Their Physiological and Therapeutic Properties. 4th. The modes of their administration and their doses. 5th. Their Pharmacentic Preparations.

## Lecture XLI.

DICOTYLDONS or EXOGENS.

### I. THALAMIFLORÆ.

RANUNCULACEÆ. *Jussieu.*

Helleborus Niger. Helleborus. *Radix. Tinctura Hellebori.*

Delphinium Staphisagria. Staphisagria. *Semina. Delphinia.*

Aconitum Paniculatum. Aconitum. *Folia. Radix. Extractum Aconiti. Aconitina.*

MAGNOLIACEÆ. *Decandolle.*

Drymis Winteri. *Cortex.*

MENISPERMACEÆ. *Decandole.*

Cissampelos Pareira. *Radix. Infusum Pareiræ. Extractum Pareiræ.*

Cocculus Palmatus. Calumba. *Radix. Infusum Calumbæ. Tinctura Calumbæ.*

Anamyrta Cocculus. Cocculus Indicus. Fructus. *Picrotoxine.*

## Lecture XLII.

PAPAVERACEÆ. *Jussieu.*

Papaver Rhœas. Rhœas. *Petala. Syrupus Rhœados.*

Papaver Somniferum. Papaver. *Capsulæ Maturæ. Decoctum Papaveris. Syrupus Papaveris. Extractum Papaveris.*

OPIUM. *Capsulæ Immaturæ. Succus concretus.*

Commercial varieties of Opium. *Smyrna. Constantinople. Egyptian. Persian. Himalayan. Patna. Benares. Malwa. Kandeish.*

The Analysis of Opium. Its Composition.

Morphia. Codeia. Narceia. Thebaina. Narcotine. Meconine. Meconic Acid.

The adulterations of Opium.

## Lecture XLIII.

Preparations of Morphia. *Morphiæ Hydrochloras. Morphiæ Acetas.*

Physiological and Therapeutic Actions of Opium, Morphia, and Narcotine.

Preparations of Opium. *Extractum Opii Purificatum. Pilulæ Saponis Compositæ. Pilulæ Styracis Comp. Pilulæ Ipecacuanhæ Comp. Pulvis Ipecacuanhæ cum Opio. Pulvis Kino Comp. Pulvis Ipecacuanhæ Compositus. Confectio Opii. Tinctura Opii. Vinum Opii. Tinctura Camphoræ Composita. Enema Opii. Linimentum Opii. Emplastrum Opii. Unguentum Gallæ Compositum.*

## Lecture XLIV.

CRUCIFERÆ. *Jussieu.*

Cochlearia Armoracia. Armoracia. *Radix. Infussum Armoraciæ Comp. Spiritus Armoraciæ Comp.*

Sinapis Nigra. Sinapis. *Semina.*

Sinapis Alba. *Semina.*

*Sinapisine. Myrosyne. Myronic Acid. Sulpho-Sinapisine. Cataplasma Sinapis.*

POLYGALEÆ. *Jussieu.*

Polygala Senega. Senega. *Radix. Decoctum Senegæ.*

Krameria Triandra. Krameria. *Radix. Infusium Krameriæ.*

LINEÆ. *Decand.*

Linum Usitatissimum. *Lini Semina. Infusum Lini Compositum. Oleum Lini. Cataplasma Lini.*

MALVACEÆ. *Brown.*

Malva Sylvestris. Malva. *Herba. Decoctum Malvæ Compositum.*

Athœa Officinalis. *Radix. Syrupus Althææ.*

Gossipium Herbaceum and other species. Cotton.

## Lecture XLV.

BITITNERIACEÆ. *Brown.*

Theobroma Cacao. Semina. *Cocoa. Chocolate.*

DIPTEROCARPEÆ. *Blume.*

Dryobalanops Camphora. *Borneo Camphor.*

TERNSTRÆMIACEÆ. *Decand.*

Thea Viridis. Thea Bohea. *Theine.*

AURANTIACEÆ. *Cortex.*

Citrus Vulgaris. *Seville Orange.* Aurantii Cortex. Fructus Cortex exterior. *Confectio Aurantii. Syrupus Aurantii. Infusum Aurantii Comp. Tinctura Aurantii. Aurantii Oleum. Aqua Florum Aurantii.*

Citrus Aurantium. *Sweet Orange.* Aurantii Fructus et Flores. *Aurantii Oleum e Floribus Distillatum; or Neroli Oil.*

Citrus Limetta *var:* Bergamium. *Bergamii Oleum.*

Citrus Medica. *The Citron.*

Citrus Limonum. *The Lemon. Fructus Cortex Exterior. Limonum Oleum e Fructus Cortice Exteriori Destillatum. Limonum Succus. Syrupus Limonum. Acidum Citricum.*

## Lecture XLVI.

GUTTIFERÆ. *Jussieu.*

Stalagmites Cambogioides. *Gambogia. Cummi Resina.*

Hebradendron Cambogioides. Ceylon Gamboge.

Hebradendron Sp: ? Siam Gamboge. *Pilulæ Cambogiæ Compositæ.*

Canella Alba. *Cortex.*

MELIACEÆ. *Decand.*

Azadiracta Indica. *Cortex.*

## Lecture XLVII.

VINIFERÆ *Jussieu.*

Vitis Vinifera. Uva. *Baccæ Exsiccatæ Demptis Acinis.* Wines

have been already treated of under the head of Alcohol in Lecture IX.

*Acidum Tartaricum.*

OXALIDEÆ. *Decand.*

Oxalis Acetosella. *Acidum Oxalicum.*

ZYGOPHYLLEÆ. *Brown.*

Guaiacum Officinale. *Lignum. Resina. Mistura Guaiaci. Tinctura Guaiaci. Tinctura Guaiaci Composita.*

RUTEÆ. *Jussieu.*

Ruta Graveolens. *Folia. Confectio Rutæ.*

DIOSMEÆ. *Jussieu.*

Diosma Crenata. *Diosmæ Folia.*

Barosma Crenata. B. Serratifolia. B. Crenulata. *Infusum Diosmæ.*

Galipea Cusparia. *Cuspariæ Cortex. Cusparin. False Angustura Bark from Strychnos Nux Vomica. Infusum Cuspariæ.*

## Lecture XLVIII.

SIMARUBEÆ. *Richard.*

Quassia Amara. *Surinam Quassia. Lignum.*

Picræna Excelsa (Quassia Excelsa) *Jamaica Quassia. Lignum. Quassine. Infusum Quassiæ.*

Simaruba Officinalis. *Simarubæ Radicis Cortex. Infusum Simarubæ.*

## II. CALICYFLORÆ.

RHAMNEÆ. *Brown.*

Rhamnus Catharticus. *Baccæ. Syrupus Rhamni.*

TEREBINTHACEÆ. *Jussieu.*

Pistacia Terebinthus. *Terebinthus Chia. Resina Liquida.*

Pistacia Lentiscus. *Mastiche Resina.*

Rhus Toxicodendron. *Folia.*

Boswellia Serrata. B. Thurifera. *Olibanum. Gummi. Resina.*

Balsamodendron Myrrha. *Gummi-Resina. Myrrha.*

Balsamodendron Gileadense. B. Opobalsamum. *Tinctura-Myrrhæ.*

Amyris Elemifira. Elemi.

Elaphrium Elemiferum. Mexican Elemi.

Icica Icicariba. Brazilian Elemi.

Canarium Commune. Manilla Elemi.

## Lecture XLIX.

LEGUMINOSÆ. *Jussieu.*

*Sub-Order.* MIMOSEÆ.

Acacia Vera. A. Arabica. *Acaciæ Gummi. Mistura Acaciæ. Arabine.*

Acacia Catechu. *Catechu. Ligni Extractum.* Infusum Catechu Compositum. Tinctura Catechu.

*Sub-Order.* CÆSALPINEÆ.

Hæmatoxylon Campechianum. *Lignum. Extractum Hæmatoxyli.*

Tamarindus Indica. *Leguminis Pulpa.*

## Lecture L.

Cassia Fistula. Leguminum Pulpa. *Confectio Cassiæ.*

Cassia Lanceolata. C. Obovata and other Species. *Sennæ Folia.*

Commercial varieties of Senna. *Tinnevelly. Madras. Bombay or common Indian Senna. Alexandria. Tripoli Senna. Aleppo Senna.*

Adulterations of Senna. *Cynanchum Argel. Coriaria Myrtifolia. Tephrosia Apollinea. Colutea Arborescens. Infusum Sennæ Comp. Tinctura Sennæ Comp. Syrupus Sennæ. Confectio Sennæ.*

Copaifera Langsdorfii. C. Officinalis and other Species. *Copaiba. Liquid Oleo-Resina. Oleum Copaibæ.*

*Sub-Order.* PAPILIONACEÆ.

Myroxylon Peruiferum..... { Balsam of Peru. / Balsam of Tolu.

*Tinctura Balsami Tolutani. Syrupus Tolutanus.*

Pterocarpus Santalinus. *Lignum.*

Pterocarpus Erinaceus. *African Kino.*

Pterocarpus Marsupium. *Malabar Kino. Tinctura Kino. Pulvis Kino Comp.*

Butea Frondosa.

Spartium (Cytisus) Scoparium. *Cacumina Recentia. Infusum Scoparii. Decoctum Scoparii Comp.*

Glycirrhiza Glabra. *Radix Recens. Extractum Glycirrhizæ.*

Astragalus Verus. A. Gummifer and other Species. *Tragacantha. Succusconcretus. Pulvis Tragocanthæ Compositus.*

Mucuna Pruriens. *Mucuna. Leguminum Pubes.*

## Lecture LI.

ROSACEÆ. *Endlicher.*

*Sub-Order.* ROSEÆ.

Potentilla Tormentilla. *Tormentillæ Radix. Decoctum Tormentillæ.*

Rosa Canina. *Fructus Pulpa. Confectio Rosæ Caninæ.*

Rosa Gallica. *Petala. Infusum Rosæ Comp. Confectio Rosæ Gallicæ. Mel Rosæ.*

Rosa Centifolia. *Petala. Rosæ Oleum. Attar of Roses. Aqua Rosæ.*

*Sub-Order.* POMEÆ.

Cydonia Vulgaris. *Cydoniæ Semina. Decoctum Cydoniæ.*

*Sub-Order.* AMYGDALEÆ.

Amygdalus Communis. *var. Dulcis. Amygdalæ Dulces. Emulsine or Synaptase. Confectio Amygdalæ. Mistura Amygdalæ Oleum Amygdalæ.*

Amygdalus Cummunis. *var.* Amara. Amygdalæ Amaræ. *Amygdaline. Oil of Bitter Almonds. Benzoyle.*

Prunus Domestica. *Drupæ Exsiccatæ.*

Prunus Lauro-Cerasus. *Folia. Aqua Lauro-Cerasi.*

Hydrocyanic Acid already treated of in Lecture XI.

## Lecture LII.

MYRTACEÆ. *Brown.*

Melaleuca Cajaputi. *Cajaputi Oleum e Foliis Destillatum.*

Caryophyllus Aromaticus. *Caryophyllus. Flores nondum explicati, exsiccati. Oleum Caryophylli. Infusum Caryophylli.*

Eugenia Pimenta. Pimenta. *Baceæ Immaturæ Exsiccatæ. Oleum Pimentæ. Spiritus Pimentæ. Aqua Pimentæ.*

Punica Granatum. *Granati Fructus Cortex et Radicis Cortex.*

## Lecture LIII.

CUCURBITACEÆ. *Jussieu.*

Cucumis (Citrullus) Colocynthis. Colocynthis. *Peponum Pulpa Exsiccata. Colocynthine. Extractum Colocynthidis. Extractum Colocythidis Comp. Enema Colocynthidis.*

Memordica Elaterium. *Elaterium. Pepones Recentes. Elaterine. Extractum Elaterii.*

## Lecture LIV.

UMBELLIFERÆ. *Jussieu.*

I. YIELDING AROMATIC VOLATILE OIL.

Carum Carui. *Fructus. Caraway. Oleum Carui. Spiritus Carui. Aqua Carui.*

Pimpinella Anisum. *Fructus. Anise. Oleum Anisi. Spiritus Anisi.*

Fæniculum Vulgare. *Common Fennel.*

Fæniculum Dulce. *Sweet Fennel. Oleum Fæniculi. Aqua Fæniculi.*

Anethum Graveolens. *Common Dill. Aqua Anethi.*

Daucus Carota. *Fructus. Radix Recens. Carrot.*

Cuminum Cyminum. *Common Cumin.*

Coriandrum Sativum. *Coriander.*

## Lecture LV.

II. YIELDING FŒTID GUM RESINS.

Opopanax Chironum ? *Opopanax. Gummi Resina.*

Ferula Sp ? *Sagapenum. Gummi Resina. Pilulæ Sagapeni Compositæ.*

Narthex Assafœtida. *Assafœtida. Gummi Resina. Mistura Assafœtidæ. Tinctura Assafœtidæ.*

Dorema Ammoniacum. *Mistura Ammoniaci. Emplastrum Ammoniaci.*

Opoidia Galbanifera ? *Galbanum. Gummi Resina. Pilulæ Galbani Comp. Emplastrum Galbani.*

III. YIELDING A NARCOTIC PRINCIPLE.

Conium Maculatum. *Conii Folia. Extractum Conii. Tinctura Conii. Pilulæ Conii Comp. Cataplasma Conii.*

## Lecture LVI.

III. COROLLIFLORÆ.

RUBIACEÆ. *Jussieu.*

Rubia Tinctorum. *Radix.*

Cephaelis Ipecacuanha. *Ipecacuanhæ Radix. Emetine.*

Adulterations of Ipecacuan. *Psychotria Emetica. Richardsonia Scabra.*

*Vinum Ipecacuanhæ. Pulvis Ipecacuanhæ Comp. Pilulæ Ipecacuanhæ Compositæ.*

Coffea Arabica. *Semina. Caffeine.*

Cinchona Lancifolia.... } Crown or Loxa Bark.. } *Cinchona Pallida.*
Cinchona Condaminea.. }
Cinchona Micrantha.... Grey or Silver Bark...

Cinchona Cordifolia. *Yellow Bark. Ciachona Flava.*

Cinchona Oblongifolia. *Red Bark. Cinchona Rubra.*

The Chemistry of Cinchona Bark. *Quina. Cinchonia. Aricina. Kinic Acid. Cinchonic Red. Cinchonic Yellow.*

*Quinæ Disulphas. Quinæ Sulphas. Quinoidine.*

Adulterations of Quinine.

*Infusum Cinchonæ. Decoctum Cinchonæ Cordifoliæ. Tinctura Cinchonæ. Tinctura Cinchonæ Comp. Extractum Cinchonæ Corfoliæ. Extractum Cinchonæ Lancifoliæ. Extract. Cinchonæ Oblongifoliæ.*

## Lecture LVII.

VALERIANEÆ. *Decand.*

Valeriana Officinalis. *Valerianæ Radix. Tinctura Valerianæ. Tinctura Valerianæ Comp.*

COMPOSITÆ. *Adans.*

Inula Helenium. *Inulæ Radix. Inuline. Helenine.*

Anthemis Nobilis. *Flores Simplices. Infusum Anthemidis. Oleum Anthemidis.*

Anthemis Pyrethrum. *Pyrethri Radix.*

Artemisia Absinthium. *Absinthium. Flowering Tops.*

Arnica Montana. *Folia et Radix.*

Leontodon Taraxacum. *Taraxaci Radix. Extractum Taraxaci.*

Lactuca Sativa. *Lactuacarium. Succus Spissatus. Extractun Lactucæ.*

Lactuca Virosa. Lactucarium. Succus Spissatus. *Lactucine.*

LOBELIACEÆ. *Jussieu.*

Lobelia Inflata. *Herba. Lobeline.*

## Lecture LVIII.

ERICACEÆ. *Endlicher.*

Arctostaphylos Uva Ursi. *Uvæ Ursi Folia. Decoctum Uvæ Ursi Extractum Uvæ Ursi.*

Chimaphilla Corymbosa. *Chimaphillæ Folia. Decoctum Chimaphillæ.*

STYRACEÆ. *Richard.*

Styrax Officinalis. *Styrax Balsamum. Styrax Colatus. Pilulæ Styracis Compositæ.*

Styrax Benzoin. *Benzoin. Balsamum. Tinctura Benzoini Composita. Acidum Benzoicum.*

OLEACEÆ. *Lindley.*

Olea Europea. *Olivæ Oleum. Elaeine. Margarine.*

*Sapo.*

*Sapo Mollis. Chemistry of Saponification. Margaric, Stearic, and Elaeic Acids. Glycerine. Pilulæ Saponis Comp. Linimentum Saponis. Ceratum Saponis. Emplastrum Saponis.*

Fraxinus Ornus. *Manna. Mannite.*

ASCLEPIADEÆ. *Lindley.*

Asclepias Curassavica. *Radix.*

Calotropis Gigantea. *Mudar.*

STRYCHNEACEÆ. *Endlicher.*

Strychnos Nux Vomica. *Semina. False Augustura Bark. Strychnia. Brucia.*

## Lecture LIX.

GENTIANEÆ. *Jussieu.*

Gentiana Lutea. *Gentianæ Radix. Infusum Gentianæ Comp. Mistura Gentianæ Comp. Tinctura Gentianæ Comp. Extractum Gentianæ.*

Ophelia Chirata. Chiretta. Herba et Radix. *Infusum Chirettæ.*

CONVOLULACEÆ. *Brown.*

Ipomæa Jalapa.... } *Jalapæ Radix.*
Ipomæa Purga.... }

*Pulvis Jalap. Comp. Tinctura Jalapæ. Extractum Jalapæ.*

Convolvulus Scammonia. *Scammonium. Adulterations of Scammony. Pulvis Scammonii Comp. Confectio Scammonii.*

## Lecture LX.

LABIATÆ. *Jussieu.*

Lavandula Vera. L. Spica. *Lavandulæ Flores. Oleum Lavandulæ. Spiritus Lavandulæ. Tinctura Lavandulæ Comp.*

Mentha Viridis. *Herba. Oleum Menthæ Viridis. Aqua Menthæ Viridis. Spiritus Menthæ Viridis.*

Mentha Piperita. *Herba. Oleum Menthæ Piperitæ. Aqua Menthæ Piperitæ. Spiritus Menthæ Piperitæ.*

Mentha Pulegium. *Herba. Oleum Menthæ Pulegii. Aqua Menthæ Pulegii. Spiritus Menthæ Pulegii.*

Rosmarinus Officinalis. *Cacumina. Oleum Rosmarini. Spiritus Rosmarini.*

Origanum Vulgare. *Herba. Oleum Origani.*

Marrubium Vulgare. *Herba.*

ACANTHACEÆ. *Brown.*

Justicia Paniculata. *Stems. Kreat. Infusum Kreat.*

SCROPHULARINEÆ. *Brown.*

Digitalis Purpurea. *Digitalis Folia. Digitaline. Infusum Digitalis. Tinctura Digitalis. Extractum Digitalis.*

## Lecture LXI.

SOLANEÆ. *Jussieu.*

Solanum Dulcamara. *Dulcamaræ Caulis. Decoctum Dulcamaræ.*

Atropa Belladonna. *Belladonnæ Folia. Atropia. Extractum Belladonnæ. Emplastrum Belladonnæ.*

Capsicum Annuum. *Capsici Baccæ. Capsicine. Tinctura Capsici.*

Datura Stramonium. *Stramonii Folia et Semina. Daturia. Extractum Stramonii.*

Hyoscyamus Niger. *Hyoscyami Folia. Hyoscyamia. Extractum Hyoscyami. Tinctura Hyoscyami.*

Nicotiana Tabacum. *Tabaci Folia Exsiccata. Nicotina. Nicotianine. Enema Tabaci.*

## Lecture LXII.

### IV. APETALÆ.

POLYGONEÆ. *Jussieu.*

Rheum Palmatum. R. Undulatum and other Species. *Rhei Radix.*

Commercial varieties of Rhubarb. *Russian or Turkey. Bucharian. Chinese or East Indian. Himalayan. English.*

RHABARBERIC ACID.

*Pilulæ Rhei Comp. Extractum Rhei. Infusum Rhei. Tinctura Rhei Comp.*

THYMELEÆ. *Jussieu.*

Daphne Mezereum. *Mezerei Radicis Cortex. Daphnine.*

MYRISTICEÆ. *Brown.*

Myristica Moschata *or* Officinalis. *Myristicæ Nuclei. Myristicæ Arillus (Mace.)*

*Myristicæ Oleum Expressum. Oleum Myristicæ. Spiritus Myristicæ.*

## Lecture LXIII.

LAURINEÆ. *Brown.*

Laurus Nobilis. *Lauri Folia. Lauri Baccæ.*

Laurus Sassafras. *Sassafras Radix. Oleum Sassafras.*

Laurus Camphora. *Camphora. Camphogene. Camphoric Acid. Mistura Camphoræ. Tinctura Camphoræ. Tinctura Camphoræ Comp. Linimentum Camphoræ. Linimentum Camphoræ Compositum.*

Laurus Cinnamonum, or Cinnamonum Zeylanicum. *Cinnamomi Cortex. Cinnamyle. Cinnamic Acid. Oleum Cinnamomi. Pulvis Cinnamomi Comp. Aqua Cinnamomi. Spiritus Cinnamoni. Tinctura Cinnamomi. Tinct. Cinnamomi Comp.*

Laurus Cassia or Cinnamomum Iners. *Cassiæ Cortex. Cassia Buds.*

Nectandra Rodiei. *Lignum. Beberine. Sulphate of Beberine.*

ARISTOLOCHIÆ. *Jussieu.*

Asarum Europeum. *Asari Folia.*

Aristolochia Serpentaria. *Serpentariæ Radix. Infusum Serpentariæ. Tinctura Serpentariæ.*

Aristolochia Indica, and other Species. *Remarks on their supposed virtues as antidotes to Snake Bites.*

## Lecture LXIV.

EUPHORBIACEÆ. *Jussieu.*

Croton Cascarilla. *Cascarillæ Cortex. Cascarilline. Infusum Cascarillæ. Mistura Cascarillæ Composita. Tinctura Cascarillæ.*

Croton Tiglium. *Tiglii Oleum. Crotonine. Crotonic Acid.*

Ricinus Communis. *Ricini Oleum. Adulterations of Croton and Castor Oils.*

Jatropha *(Janipha)* Manihot. *Tapioca.*

Euphorbia Officinarum. *Euphorbium.*

PIPERACEÆ. *Richard.*

Piper Longum. *Fructus immaturus Exsiccatus.*

Piper Nigrum. *Baccæ.* BLACK AND WHITE PEPPER. *Piperine. Volatile Oil. Acid Resin. Confectio Piperis Nigri.*

Piper Cubeba. *Cubebæ. Baccæ. Cubebine. Oil of Cubebs. Tinctura Cubebæ.*

## Lecture LXV.

URTICEÆ. *Jussieu.*

Humulus Lupulus. *Lupulus. Strobili Exsiccati. Lupuline. Infusum Lupuli. Tinctura Lupuli. Extractum Lupuli.*

Cannabis Sativa. *The Stem. Hemp. Churrus. Ganjah. Bang. Extractum Cannabis. Tinctura Cannabis.*

Morus Nigra. *Mori Fructus. Syrupus Mori.*

Ficus Carica. *Fici. Fructus Siccatus.*

Dorstenia Contrajerva. *Contrajervæ Radix.*

AMENTACEÆ. *Jussieu.*

Salix Fragilis. S. Alba. S. Caprea. *Salicine.*

Quercus Pedunculata. *Quercus Cortex. Tannin or Tannic Acid. Tanno-Gelatine. Gallic Acid. Decoctum Quercus.*

Quercus Infectoria. *Gallæ.*

The Insect *Cynips Gallæ Tinctorum. Tinctura Gallæ. Unguentum Gallæ Compositum.*

## Lecture LXVI.

CONIFERÆ. *Jussieu.*

Pinus Sylvestris, and other Species of Pinus and Abies. *Terebinthina vulgaris.*

Pinus Maritima. *Bordeaux Turpentine.*

Pinus Palustris and P. Fæda. *American Turpentine.*

Pinus (Abies) Balsamea. *Terebinthina Canadensis.*

Pinus Abies *or* Abies excelsa. *Abietis Resina. Pix Abietina. Burgundy Pitch. Emplastrum Picis.*

Larix Europæa. *Terebinthina Veneta. Venice Turpentine.*

---

Resina. *Colophony. Resina Flava. Sylvic, Pinic, and Colophonic Acids. Ceratum Resinæ.*

Terebinthinæ Oleum. *Oleum Terebinthinæ Purificatum. Linimentum Terebinthinæ. Enema Terebinthinæ.*

Pix Liquida. *Tar. Unguentum Picis Liquidæ.*

Pix Nigra. Pitch. *Unguentum Picis Nigræ.*

Juniperus Communis. *Juniperi Cacumina et Fructus. Oleum Juniperi. Spiritus Juniperi Compositus.*

Juniperus Sabina. *Sabinæ Cacumina Recentia et Exsiccata. Oleum Sabinæ. Ceratum Sabinæ.*

## Lecture LXVII.

MONOCOTYLEDONS, or ENDOGENS.

PALMÆ. *Jussieu.*

Areca Catechu. *Betelnut Palm.*

Phænix Dactilifera. *The Date Palm.*

Cocos Nucifera. *Cocoanut Palm.*

Borassus Flabelliformis. *The Thar Palm.*

Sagus Rumphii. *Sago Palm. Sago.*

LILIACEÆ. *Decand.*

Allium Sativum. *Bulbus. Garlic.*

Allium Cepa. *Bulbus. Onion.*

Allium Porrum. *Bulbus. Leek.*

Scilla Maritima. *Scillæ Bulbus Recens. Scillitine. Pilulæ Scillæ Compositæ. Acetum Scillæ. Oxymel Scillæ. Tinctura Scillæ.*

Aloe Spicata and other Species. *Aloe Inspissated Juice of the Leaves.*

Commercial varieties of Aloes. *Socotrine. Hepatic. Barbadoes. Cape-Aloes. Aloisine. Extractum Aloes Purificatum. Pulvis Aloes Comp. Pilulæ Aloes Compositæ. Pilulæ Aloes cum Myrrha. Decoctum Aloes Compositum. Vinum Aloes. Tinctura Aloes. Tinctura Aloes Composita.*

## Lecture LXVIII.

MELANTHACEÆ. *Brown.*

Colchicum Autumnale. *Colchici Cormus et Semina. Colchicina. Extractum Colchici Aceticum. Acetum Colchici. Vinum Colchici. Tinctura Colchici Composita. Tinctura Colchici.*

Veratrum Album. *Veratri Rhizoma. Decoctum Veratri. Unguentum Veratri. Vinum Veratri.*

Asagræa Officinalis. Veratrum Sabadilla. *Sabadillæ Semina. Veratria.*

SMILACEÆ. *Brown.*

Smilax Officinalis, and other Species. *Sarzæ Radix.*

Commercial varieties of Sarsaparilla. *Jamaica. Brazilian. Honduras. Lima. Smilacine. Decoctum Sarzæ. Decoctum Sarzæ Compositum. Extractum Sarzæ. Syrupus Sarzæ.*

## Lecture LXIX.

ORCHIDEÆ. *Jussieu.*

Vanilla Aromatica. *Semina.*

Orchis Morio. O. Mascula, and other Species. *Salep.*

CANNEÆ. *Brown.*

Maranta Arundinacea. *Arrowroot.*

SCITAMINEÆ. *Brown*

Zingiber Officinale. *Rhizoma. Ginger. Tinctura Zingiberis. Syrupus Zingiberis.*

Curcuma Longa. *Rhizoma. Turmeric.*

Alpinia Cardamomum. *Cardamomi Semina. Tinctura Cardamomi. Tinctura Cardamomi Composita.*

IRIDEÆ. *Jussieu.*

Crocus Sativus. *Croci Stigmata Exiccata. Syrupus Croci.*

GRAMINEÆ. *Jussieu.*

Avena Sativa. *Semina. The Oat.*

Hordeum Distichon. *Semina. Barley. Decoctum Hordei. Decoctum Hordei Comp.*

Secale Cereale. *Semina. Rye. Ergot of Rye treated of in* Lecture LXX.

Triticum Hybernum. *Semina. Wheat. Farina. Flour. Amylum. Starch. Decoctum Amyli.*

Saccharum Officinarum. *Saccharum. Sacchari Fæx. Treacle. Molasses. Syrupus.*

## Lecture LXX.

ACOTYLEDONS *or* CRYPTOGAMIÆ.

FILICES. *Jussieu.*

Aspidium Filix Mas. *Rhizoma.*

LICHENES. *Jussieu.*

Cetraria Islandica. *Decoctum Cetrariæ.*

Roccella Tinctoria and other Species. *Lacmus. Litmus.*

ALGÆ. *Jussieu.*

FUNGI. *Jussieu.*

Ergota. *Oil of Ergot. Extract of Ergot.*

## V.

### ANIMAL MATERIA MEDICA.

### Lecture LXXI.

The principles of Zoological Classification are not considered : as they more closely pertain to the subjects of Comparative Anatomy and Physiology.

Hirudo Officinalis. H. Medicinalis. Leeches. The Natural History of the Leech. Uses and application of Leeches. Cautions in the use of Leeches. Quantity of blood abstracted.

Cantharis vesicatoria (Lytta vesicatoria) *Blister Fly.*

Mylabris Cichorii. *Goozerat Blister Fly. Cantharidine.*

*Tinctura Cantharidis. Acetum Epispasticum. Ceratum Cantharidis. Unguentum Cantharidis. Emplastrum Cantharidis.*

Coccus Cacti. *Cochineal.*

Apis Mellifica. *Mel. Honey. Cera. Wax. Cera Flava. Cera Alba. Ceratum. Emplastrum Ceræ.*

Ostræa Eduiis. Oyster. Testæ. *Testæ Preparatæ.*

Acipenser various Species. *The Swimming Bladder. Icthyocolla. Isinglass. Gelatine.*

### Lecture LXXII.

Gallus Domesticus (Phasianus Gallus) Ovum.

Physeter Macrocephalus. *Cetaceum. Spermaceti. Celine Ceratum Cetacei. Unguentum Cetacei.*

Cervus Elaphus. *Cornu. Stag's Horn. Cornu Ustum.*

Moschus Moschiferus. *Moschus. Musk. Mistura Moschi*

Ovis Aries. The Sheep. *Sevum. Suet.*

Castor Fiber. The Beaver. *Castoreum. Tinctura Castorei.*

# APPENDIX (D).

## MEMORANDUM OF THE COURSE OF LECTURES ON THE PRACTICE OF MEDICINE, DELIVERED IN THE GRANT MEDICAL COLLEGE IN THE SESSION 1848-49.

BY

C. MOREHEAD, M.D.

The course of Lectures on the Practice of Medicine was arranged in six principal divisions :—

I. Diseases of the Abdomen.

II. Diseases of the Chest and Vascular System.

III. Diseases of the Brain, the Spinal Cord, Nervous System and Organs of Sense.

IV. Diseases probably dependent on altered constitution of the Blood, from mal-assimilation or retention of excretions.

V. Diseases supposed to proceed from Endemic, Epidemic and Contagious causes.

VI. Female Diseases depending on Sexual characteristics, excluding those dependent on the states of Pregnancy and Parturition.

*Division I.* Consisted of 22 Lectures and the diseases were considered in the following order :—

1st. Those of the Peritoneum. Peritonitis in its various forms, Ascites, Cancerous and Hydatid degenerations of the Peritoneum.

2nd. Diseases of the Stomach. Gastritis Acute and Chronic, Gastric Hæmorrhage, Hæmatemesis, Dyspepsia.

3rd. Diseases of the Intestinal Canal. Colic, Ileus, Colica Pictonum, Enteritis, Muco-enteritis, Gastro-Enteritis, Dysentery, Diarrhœa, Tabes Mesenterica, Melæna, Hæmorrhoids, Intestinal Entozoa.

4th. Diseases of the Liver. Hepatitis, Abscess in the Liver, Cirrhosis, Congestion of the Liver, Fatty degeneration, Scrofulous ei

largement, Cancerous degeneration, Hydatid formations, Inflammation of the Mucous lining of the Gall-Bladder and Gall-ducts, Biliary Calculi, Jaundice.

5th. Diseases of the Spleen and Pancreas.

6th. Diseases of the Kidneys, Nephritis, Perinephritis, Pyelitis, Pyelo-Nephritis. The altered conditions of the urine in Nephritis, in Bright's Disease, Chylo-serous urine, Ischuria Renalis, Diabetes, Oxalic Acid Diathesis, Uric Acid Diathesis, Phosphatic Diathesis, Hæmaturia, Cystitis.

7th. As a transition to the diseases of the next division, the diseases of the Mouth and Throat are considered, Stomatitis Apthosa, Mercurialis, Ulcerosa, Gangræna Oris, Glossitis, Parotitis, Pharyngitis, Diptheritis, Cynanche Maligna, Cynanche Tonsillaris, Hypertrophy of the Tonsils. Venereal affections of the Throat and diseases of the Œsophagus are alluded to.

*Division II.* Consisted of 16 Lectures.

1st. Diseases of the Larynx and Trachea, Laryngitis, Cynanche Trachealis, Spasm of the Glottis.

2nd. Diseases of the Lungs, Coryza, Catarrh, Bronchitis. Constriction and dilatation of the Bronchial Tubes, Asthma, Hooping Cough, Pleuritis, Pneumonia, Pulmonary Emphysema, Hæmoptysis, Pulmonary Apoplexy, Pulmonary Œdema, Phthisis Pulmonalis, Pneumo-thorax, Carcinomatous and Melœnotic degenerations.

3rd. Diseases of the Heart and Vascular system.

Pericarditis, Endo-Carditis, Carditis, Hypertrophy and Dilatation of the Heart, Diseases of the Valves of the Heart, Palpitation, Syncope, Angina Pectoris, Arteritis, Aneurism of the Aorta, Phlebitis.

*Division III.* Consisted of 11 Lectures.

1st. Diseases of the Brain. Meningitis, Cerebritis, Encephalitis Acute Hydrocephalus, Apoplexy Simple, Serous, Sanguineous, Chronic Hydrocephalus, Tubercular deposits, Growth of tumours in the Brain, Delirium Tremens, Cephalalgia, Insanity.

2nd. Diseases of the Spinal Cord—Meningitis of the Cord, Myelitis, Hydro-rachis, Spinal Apoplexy, Tetanus, Hydrophobia.

3rd. Diseases of the general nervous system, Epilepsy, Chorea, Hysteria, Paralysis, Anæsthesia, Catalepsy, Ecstacy, (Somnambulism and Mesmerism alluded to), Neuralgia.

4th. Diseases of Organs of sense, Amaurosis, Otitis, Epistaxis. Diseases of the Skin very shortly considered.

*Division IV.* Consisted of 4 Lectures on Rheumatism, Gout, Scurvy, Beriberi, Purpura Hœmorrhagica, Cachexia Scrofulous, Scorbutic, Syphilitic, Leprous, Malarious, Mercurial.

*Division V.* Consisted of 9 Lectures on Intermittent and Remittent Fever, Continued Fever Synocha, Synochus, Typhus, Yellow Fever, Plague, allusion to the Pali Disease; Small-pox, Chicken-pox, Rubeola, Scarlatina, Erysipelas, Erythema, Epidemic Cholera, Influenza.

*Division VI.* Consisted of 8 Lectures on Chlorosis, Amenorrhæa, Vicarious Menstruation, Dysmenorrhæa, Menorrhagia, Leucorrhæa, Metritis, Hysteralgia, Fibrous Tumours of the Uterus, Polypus of the Uterus, Cauliflower excrescence and Carcinoma of the Uterus, Hydrometra, Physometra, Uterine moles, Hydatids of the Uterus Relaxation, Prolapsus, Procidentia, Inœrsion, Anteversion, Anteflexion, Retro-version, Retro-flexion of the Uterus, Ovaritis, Dropsy of the Ovary, Structural disease of the Ovary.

In all, 71 Lectures were given and under each Disease, the modifications caused by difference of sex and of age, were alluded to;—so that the course included the leading peculiarities of the diseases of children. Each disease for the most part was treated after the following order.

The diseases of the different Organs were prefaced by a short notice of the relative and structural Anatomy and Physiology of the Organ.

The diseases, which consist in derangement of the Capillary circulation and its results, were first considered. This included inflammations with effusions of lymph, ulceration, mortification; determination of blood and congestion including dropsies, fluxes, and hœmorrhages.

The diseases which consist in perversions of nutrition were then considered, including Hypertrophy, Induration, Tubercle, Carcinoma, &c.

The diseases which consist in derangement of function, independent of cognizable structural derangement, were then treated of. This included many of the derangements of muscular contractility, spasm and atony of hollow organs,—also many derangements of secretion.

In treating each disease the Symptoms were first detailed the Pathology was then explained, The Medical treatment was set forth and then the Causes, predisposing and excitings were stated and lastly the modifications under each of the above heads, consequent on difference of sex and difference of age were discussed.

C. Morehead,
*Professor of Medicine.*

# APPENDIX (E.)

## MEMORANDUM OF THE SUBJECTS OF INSTRUCTION IN THE COURSE OF CLINICAL MEDICINE, IN THE GRANT MEDICAL COLLEGE FOR THE SESSION 1848-49

From the 1st July 1848 to the 15th April 1849, there were received into the Clinical ward 183 sick the subjects of the following Diseases.

### Fevers.

| | | | |
|---|---|---|---|
| Ephemeral | | 3 | |
| Intermittent Fever | Quotidian | 22 | |
| | Tertian | 1 | |
| | C. Cerebral Symptoms | 2 | |
| | C. Enlarged Spleen | 12 | |
| | C. Bronchitis | 1 | |
| | Pneumonia | 3 | |
| | Gastric Symptoms | 1 | |
| | | | 46 |
| Remittent Fever | Simple | 6 | |
| | C. Enlarged Spleen | 1 | |
| | C. Jaundice | 10 | |
| | C. Hepatitis | 1 | |
| | Head Symptoms | 4 | |
| | Bronchitis | 3 | |
| | Pneumonia | 4 | |
| | | | 29 |

### Abdominal Diseases.

| | | | |
|---|---|---|---|
| Hepatitis | 5 | Colic | 1 |
| Hepatic Abscesses | 4 | Ascites from Enlarged Liver and Spleen | 1 |
| Jaundice | 3 | Brights Disease of the Kidney { Gl. Dropsy | 8 |
| Dysentery | 24 | Dysentery. | 1 |
| Peritonitis | 3 | | |
| Gastro-enteritis | 1 | | 51 |

THORACIC DISEASES.

| | | | |
|---|---|---|---|
| Pneumonia | 14 | Laryngitis Chronic | 1 |
| Phthisis Pulmonalis | 9 | Ulcerated Sore-throat | 2 |
| Hœmoptysis | 1 | Pericarditis | 5 |
| Pleuritis | 2 | Disease of the Heart | 2 |
| Bronchitis | 5 | Aneurism of Aorta | 2 |
| Asthma | 1 | | 45 |
| Pleurodynia | 1 | | |

DISEASES OF THE NERVOUS SYSTEM.

| | | | |
|---|---|---|---|
| Apoplexy | 1 | Tetanus Idiopathic | 1 |
| Cephalalgia | 1 | | 5 |
| Delirium Tremens | 2 | | |

OTHER DISEASES.

| | | | |
|---|---|---|---|
| Rheumatism | 4 | Cachexia | 1 |
| Rubeola | 1 | Total | 183 |
| Secondary Syphilis | 1 | | |

As it was the invariable practice to make each case, which was received into the Clinical ward, the subject of practical comment, either on the discharge of the patient or at some period of his residence— a consideration of the above list will shew, that there has been ample opportunity of demonstrating to the Students many important practical facts relating to disease.

In the Malarious Fevers there has been a good deal of variety, depending on the different stages of disease at which the individuals came under treatment, as well as on the circumstance of the fevers being complicated with much variety of local disease. Moreover the subjects of the febrile diseases were of different classes of the community, who had necessarily been exposed, in different degrees, to the predisposing and exciting causes of disease. It was the aim in the clinical observations made on these cases to illustrate the etiology of fevers as well as the treatment, and in the treatment and the observations to which it gave rise, it was a main object to inculcate the principle—of the varied and constantly changing indications which it was necessary to keep in view in the treatment of each instance of the disease. Modifications depending, it was explained, on the constitution and age of the individual, the stage and duration of the disease, the nature of the local complication; and much pains were taken to disabuse the students of the too common popular belief that fevers were all alike and to be treated all by the same means.

There was also during the session a fair opportunity of practically treating of many of the important Abdominal diseases, such as Hepatitis and Abscess, of the Liver, Dysentery, Peritonitis. The many instances of Bright's disease of the Kidney, marked by urine albuminous and of low density and in the greater number attended with general Dropsy, supplied the opportunity of reviewing the whole subject of dropsical diseases.

The field of study of Thoracic diseases far exceeded my expectation and afforded a very favorable occasion of frequently demonstrating and explaining the physical signs of all the important diseases of the Lungs, and many of those of the Heart and Aorta. Indeed the intelligent and industrious Students have, considering that they have only studied practice of Medicine for eight months, a very respectable knowledge of the value of the principal diagnostic indications derivable from percussion and the Stethoscope.

The opportunity of studying the diseases of the Nervous system has been the most limited, but attention will be given to this during the next course.

Though the students have had their attention chiefly confined to the clinical wards yet the opportunity has always been taken advantage of pointing to occurrences of practical interest in the other wards of the Hospital. For example they were encouraged to watch the cases of Small-pox which were from time to time under treatment, and several instances of the marked modifying influence of Vaccination were particularly brought to their notice. The frequent admissions of Tetanus into the Hospital have also given the students a practical acquaintance with the phenomena of that disease, far exceeding what the mere experience of the clinical ward was calculated to impart.

Of the 183 cases of disease treated in the clinical ward 42 terminated fatally, viz.

| | | | |
|---|---|---|---|
| Remittent Fever C. Jaundice | 4 | Laryngitis Chronic | 1 |
| Do. Head Symptoms | 2 | Pericarditis | 1 |
| Do. Pneumonia | 2 | Diseased Heart | 2 |
| Hepatic Abcesses | 3 | Aneurism of the Aorta | 2 |
| Dysentery | 5 | Tetanus Idiopathic | 1 |
| Peritonitis | 1 | Apoplexy | 1 |
| Bright's Disease | 1 | Cachexia | 1 |
| Pneumonia | 7 | | |
| Phthisis Pulmonalis | 7 | Total | 42 |
| Pleuritis | 1 | | |

As, in by far the greater proportion of fatal cases, a careful examination of the body after death was made and the morbid appearances pointed out and explained, both in relation to the symptoms during life and the train of diseased processes, it must be evident, that the students have had a very fair opportunity of becoming familiar with many of the important facts of Morbid Anatomy.

C. MOREHEAD,
*Professor of Medicine.*

# APPENDIX (F).

## MEMORANDUM OF THE COURSE OF SURGERY.

1*st Division.*—INFLAMMATION,—its results and varieties, including ulceration and the different forms of Ulcers, Erysipelas, Furunculus, Carbuncle and Malignant Pustule. *Under this head* 8 *Lectures were given.*

2*nd Division.*—MECHANICAL AND CHEMICAL INJURIES. Wounds. Modes of stopping hæmorrhage. *Consequences of wounds*—Hydrophobia. Tetanus. *Venereal Disease.* Burns and scalds. *Under this head* 13 *Lectures were given.*

3*rd Division.*— DISEASES CONNECTED WITH OR DEPENDENT UPON PERVERTED NUTRITION. Tumors. Malignant Diseases. Scrofula. *Under this head three Lectures were given.*

4*th Division.*—DISEASES AND INJURIES OF PARTICULAR PARTS AND REGIONS. Diseases of bones. Fracture. *Mode of union.* Fractures of particular bones. Diseases of Joints. Dislocations. Diseases and Injuries of Blood Vessels, of Lymphatics and Nerves; affections of Muscles, Tendons and Bursæ. Surgical diseases of the Skin. Injuries of the Head. Diseases and Injuries of the Eye and lachrymal apparatus, of the Ear and Nose. Diseases and injuries about the mouth and throat; and of the Spine. Injuries of the Chest and Abdomen. Hernia. *Anatomy of Inguinal Hernia.* Femoral Hernia. *Anatomy of Femoral Hernia.* Affections of the Genital and Urinary Organs. Diseases of the Female Breast. Diseases about the Rectum and Anus. *Under this head* 42 *Lectures were given.*

(Signed) J. PEET.
*Professor of Surgery.*

# APPENDIX (G).

*Return of Diseases treated in the Clinical Surgical Ward of the Jamsetjee Jejeebhoy Hospital, from the* 1*st July* 1848, *to* 15*th April* 1849.

| Names of Diseases. | | | Number Admitted. | Number Discharged. | Died. | Remarks. |
|---|---|---|---|---|---|---|
| Fractures | Simple | Forearm | 2 | 2 | 0 | |
| | | Leg | 4 | 4 | 0 | |
| | | Thigh | 5 | 5 | 0 | |
| | | Skull | 3 | 0 | 3 | All these were Fractures with Depression and extensive injury of the Brain. |
| | | Clavicle | 1 | 1 | 0 | |
| | | Fingers | 1 | 1 | 0 | |
| | Compound | Forearm | 1 | 0 | 1 | Death from Tetanus. |
| | | Arm | 1 | 1 | 0 | |
| | | Leg | 6 | 3 | 3 | One of these cases terminated fatally after amputation performed on admission; another from rapidly spreading Gangrene; and the third, an old debilitated man, sunk under Hectic. |
| | | Finger and Toes | 5 | 4 | 1 | Death from Tetanus. |
| Dislocations and Sprains | Dislocation of Shoulder-Joint | | 2 | 2 | 0 | |
| | Subluxation of Ankle | | 3 | 3 | 0 | |
| Wounds and Contusions | Upper Extremity | | 6 | 6 | 0 | |
| | Lower | | 12 | 10 | 2 | Both deaths from rapidly spreading Gangrene in debilitated subjects. |
| | Head and Neck | | 13 | 12 | 1 | |
| | Trunk | | 2 | 2 | 0 | Death from Tetanus. |
| Ulcers | Scorbutic | | 9 | 9 | 0 | |
| | Phagedœnic | | 1 | 1 | 0 | |
| | Indolent | | 1 | 1 | 0 | |
| | Sloughing | | 1 | 1 | 0 | |
| | Irritable | | 2 | 2 | 0 | |

*Return of Diseases treated in the Clinical Surgical Ward.—Continued.*

| Names of Diseases. | | Number Admitted. | Number Discharged. | Died. | Diseases. |
|---|---|---|---|---|---|
| Abscess | Acute | 12 | 11 | 1 | |
| | Chronic | 4 | 4 | 0 | |
| Diseases of Bones | Caries | 3 | 3 | 0 | |
| Diseases of Urinary Organs | Strictura Urethræ | 2 | 2 | 0 | |
| | Calculus Vesicæ | 2 | 1 | 1 | The fatal case occurred in a child 4 years of age,—and death was caused by convulsions 36 hours after the operation. |
| Syphilitic Diseases | Primary Syphilis | 8 | 8 | 0 | |
| | Secondary | 2 | 2 | 0 | |
| | Gonorrhœa | 3 | 3 | 0 | |
| Aneurism of Carotid Artery | | 1 | 0 | 1 | The tumour occupied the whole left side of neck, sufficient room not being left for ligature of the vessel. |
| Dracunculus | | 3 | 3 | 0 | |
| Encysted Tumour | | 1 | 1 | 0 | |
| Fibro-Cartilaginous Tumour of Jaw | | 1 | 1 | 0 | The greater part of the upper maxillary bone removed. |
| Fistula in Ano | | 2 | 2 | 0 | |
| Fungous Growth from Testicle | | 2 | 2 | 0 | |
| Gangrene of the Scrotum | | 1 | 1 | 0 | |
| Hydrophobia | | 2 | 0 | 2 | |
| Polypus Nasi | | 1 | 1 | 0 | |
| Scirrhus of Glands of Neck | | 2 | 2 | 0 | The disease was too far advanced for removal. |
| Strangulated Inguinal Hernia | | 3 | 1 | 2 | Two cases were operated upon; the remaining case was moribund when admitted. |
| Tetanus | | 3 | 1 | 2 | |
| Total Treated | | 139 | 119 | 20 | |

(Signed) J. Peet,
*Professor of Surgery.*

## APPENDIX (H).

The capital operations performed in the presence of the Students since 1st January 1848, have been as follows:—

| | |
|---|---|
| Amputation of Thigh | 3 |
| ,, Leg | 6 |
| ,, Arm | 2 |
| Lateral operation of Lithotomy | 3 |
| Strangulated Inguinal Hernia | 3 |
| Removal of greater part of upper Jaw | 1 |

The minor operations have been numerous, and have consisted of the removal of fingers and toes, tumors, the operations for Hydrocele, Fistula in ano, Hare-lip, &c., &c.

(Signed) J. PEET,
*Professor of Surgery.*

# APPENDIX (I).

NOTIFICATION.

## GRANT MEDICAL COLLEGE.

The following Scholarships will be open for competition to the Students of the College, at the close of the Session 1848-49, viz. in month of April, 1849.

I.

*To the Third Year Students.*

A CARNAC Scholarship of Rupees 20, monthly, for the greatest proficiency in the *Principles and Practice of Medicine and Surgery.*

A FARISH Scholarship of Rupees 15, monthly, for the second degree of proficiency *in the Principles and Practice of Medicine and Surgery.*

An ANDERSON Scholarship of Rupees 20, monthly, for the greatest proficiency in *Anatomy and Physiology.*

A CARNAC Scholarship of Rupees 20, monthly, for the greatest proficiency in *Materia Medica and Practical Pharmacy.*

II.

*To the Second and First Year Students.*

An ANDERSON Scholarship of Rupees 20, monthly, for the greatest proficiency in *Anatomy and Chemistry.*

A FARISH Scholarship of Rupees 15, monthly, for the greatest proficiency in *Anatomy.*

An ANDERSON Scholarship of Rupees 15, monthly, for the greatest proficiency in *Chemistry both Theoretical and Practical.*

III.

*To the First Year Students.*

A FARISH Scholarship of Rupees 10, monthly, for the greatest proficiency in the subjects of their study during the Session

CONDITIONS OF COMPETITION APPLICABLE TO ALL THE SCHOLARSHIPS.

Competition for the Scholarships is open both to Free and Stipendiary Students.

The Scholarships will be held for a period of one year.

A minimum standard of proficiency will be fixed on, and should this standard not be exceeded, the Scholarships will not be awarded.

In the event of a Student being the successful competitor for more than one Scholarship, he shall, in addition to the award of one Scholarship, receive some honorary mark of distinction, but the second Scholarship shall pass down to the proficient in the next degree.

The presence of the Students in the College and Hospital will be ascertained by Roll-call *at least* four times daily throughout the Session, and those Students who, during the Session, have been absent from more than 15 Roll-calls, exclusive of absence on recognized holidays, from sickness duly certified, and leave granted on unavoidable grounds, will not be permitted to compete for these Scholarships.

Those Students whose English Exercises, written during the Session, shew a marked want of attention to improvement in composition, will also be debarred from competing for these Scholarships.

Should the written exercises required as part of the examination for the Scholarships, shew a marked want of attention to improvement in English composition, the writer will be held disqualified for a Scholarship, whatever his qualifications in other respects may be.

The successful competitors will be required to shew, by the result of the General Examination at the close of the Session, that they have not neglected any of the branches of study with which they may have been engaged during the Session: deficiency in this respect will disqualify for the Scholarships.

(Signed) C. MOREHEAD,
*Superintendent Grant Medical College.*

*By order of the Board of Education,*
HENRY J. CARTER,
*Officiating Secretary.*

*Bombay, 25th July* 1848.

# APPENDIX (J.)

## GRANT MEDICAL COLLEGE.

The Annual Examination of the Students of the Grant Medical College, will commence on Thursday 22nd March, and be conducted in the following manner :

*Thursday*, 22*nd*.—Viva voce examination in Anatomy.

*Friday*, 23*rd*.—Questions in Anatomy will be proposed to which written answers will be returned.

*Saturday*, 24*th*.—Examination in Practical Anatomy.

*Monday*, 26*th*.—Viva voce examination in Physiology.

*Tuesday*, 27*th*.—Questions in Physiology will be proposed to which written answers will be returned.

*Wednesday*, 28*th*.—JUNIOR STUDENTS. Viva voce examination in Chemistry. SENIOR STUDENTS. Questions in the Practice of Medicine will be proposed to which written answers will be returned.

*Thursday*, 29*th*.—JUNIOR STUDENTS. Questions in Chemistry will be proposed to which written answers will be returned.

SENIOR STUDENTS. Questions in Surgery will be proposed to which written answers will be returned.

*Friday*, 30*th*.—Examination in Practical Chemistry.

*Saturday*, 31*st*.—Viva voce examination in the Practice of Medicine.

*Monday*, *April*, 2*nd*.—Viva voce examination in Surgery.

*Tuesday*, 3*rd*.—Viva voce examination in Materia Medica.

*Wednesday*, 4*th*.—Questions in Materia Medica will be proposed to which written answers will be returned.

*Thursday*, 5*th*.—Examination in Practical Pharmacy, in compounding medicines, and in the application of bandages.

These Examinations are held with the view of awarding the *Carnac*, *Farish* and *Anderson* Scholarships and other prizes ; and also of classifying the Students, and testing the progress made by them during the past Session.

The examinations will commence on each day at 11 A. M. ; and your attendance will be very acceptable to the Officers of the Institution.

C. MOREHEAD,

*March* 15*th*, 1849. *Supt. Grant Medical College*

# APPENDIX (K.)

QUESTIONS ON ANATOMY.

*Answered by the 3rd Year Students.*

1. In a space bounded above by a line drawn transversely from one condyle of the Humerus to the other, below by a similar line drawn across the junction of the upper and middle thirds of the fore-arm, and limited laterally by the borders of the Ulna and Radius, describe the parts in the order they are met with and their relations to one another, commencing at the skin in the front of the fore-arm, and terminating at the skin behind.

2. Describe the upper triangle of the neck, its boundaries, extent, and the parts contained in it, with particular reference to the Surgical Anatomy of the common and external Carotid arteries.

3. Give a brief and general account of the state of development of all the bones at the period of birth, commencing with the Vertebral column.

4. Trace the Glosso-pharyngeal nerve from its origin to its termination; give a general description of the Ganglia connected with it, and afterwards describe minutely, the course, communications, and relations of the Tympanic nerve.

QUESTIONS ON ANATOMY.

*Answered by the 2nd and 1st Year Students.*

1. Describe the articulation of the Occipital bone with the Atlas, and name the ligaments which are connected to the former bone and to the two upper Vertebræ.

2. Name the muscles which are attached to the lower jaw; describe the origin, insertion, size, and relations of the external Pterygoid muscle.

3. Enumerate the branches of the external Carotid artery, and describe the Lingual artery.

4. How could the Scaphoid and Trapezoid bones of the left side be distinguished from the same bones of the opposite side?

### Questions in Chemistry.

*Answered by the 2nd and 1st Year Students.*

1. Explain the Chemical relations of Chlorine to the other Elements, state the condition in which it naturally exists, describe the processes for its preparation, with the nature of the changes that occur in them, describe the properties of this element, and the uses to which it is applied.

2. State the conditions in which Arsenic is found naturally, enumerate its compounds, and describe the best methods for distinguishing Arsenious Acid and Orpiment from all other substances.

3. Explain the changes that occur in the preparation of a Spirituous liquor and of Vinegar from toddy.

4. What is the nature of the changes that occur in the generating cell of a Voltaic circle, and of those also which take place in the decomposing cell.

### Questions in Physiology.

*Answered by the 3rd Year Students.*

1. Name all the ultimate Elements which result from the decomposition of the structures of the animal body during life and mention the channels by which, and all the combinations in which, they are respectively separated from the blood and thrown out of the system.

2. Omitting the function of reproduction, mention all the organic functions in which nervous influence is operative and explain the kind of nervous influence and how it is exercised in each instance.

3. In what respects does the heart of a Molluscous Animal, of a Fish, and of a Reptile, respectfively differ from the human heart.

4. If three or four fibres of striated muscular fibre be mechanically irritated, what will be the effect on these fibres and what on the fibres adjacent? If three or four fibres of non-striated muscular fibre be mechanically irritated, what will be the effect on these fibres and what on the fibres adjacent to them?

### Questions in Physiology.

*Answered by 2nd Year Students.*

1. What do you understand by animal heat and explain how it is generated?

2. Describe the appearance of the red Corpuscles of the human

blood, mention their average size, their proportion to the other constituents of the blood, and the purpose which they are believed to serve in the animal Economy.

3. State the difference between the function of an afferent and efferent nervous fibre.

### Questions in Practice of Physic.

*Answered by 3rd Year Students.*

1. Name those common diseases of the Chest, which, in some of their stages, are attended by increased dulness on percussion. Then state in regard to each of these diseases, the course of the Pathological changes from their commencement to that state which causes the dull sound on percussion. Dulness on percussion being common to all, mention in regard to each of these diseases, the diagnostic symptoms and signs which aid us in distinguishing them respectively from each other.

2. State generally the symptoms of Remittent Fever, then mention its causes predisposing and exciting. Explain the several ways in which life may be endangered by it, and state the general indications of cure which ought to be kept in mind in the treatment.

3. Name the principal Inflammatory diseases of the region of the Abdomen; state, in regard to each, the organ and the tissue which is the subject of inflammation, and in regard to each the common result of the inflammation in unfavorable cases; that is, in cases in which the termination has not been by resolution.

### Questions on Surgery.

*Answered by the 3rd Year Students.*

1. State the chief differences between Gun-shot and other wounds; how could you ascertain whether a ball or other foreign body is lodged in a part; and in the event of its being lodged, what principles would guide you in regard to the propriety of making an attempt to extract it.

2. When an artery of moderate size is divided, explain the manner in which nature will sometimes succeed in bringing about a permanent cessation of the bleeding. Should the artery be of considerable size, mention the different methods which have been, and still are, adopted for the suppression of the bleeding, and state those which as a general rule you would prefer, giving your reasons for such preference; and in conclusion, describe minutely the changes that occur after the application of a ligature until its final removal.

3. When a person falls from a height alighting upon his feet, mention the injuries most likely to be produced.

4. Suppose a case where there is a swelling in the Popliteal space, state how you would decide whether it is a fatty tumour, an enlarged gland, or an aneurism. Give an account of the treatment of Popliteal aneurism, and state the principles upon which the treatment is founded.

# APPENDIX (L).

## Answers to the Questions on Anatomy, Chemistry, Physiology and Practice of Medicine.

### ANATOMY.

1*st*. In a space bounded above by a line drawn transversely from one condyle of the Humerus to the other, and below by a similar line drawn across the junction of the upper and middle thirds of the fore-arm and limited laterally by the borders of the Radius and Ulna, the parts met with are as follows :

1st. The skin, which in this situation is comparatively thin and delicate and marked above by a depression midway between the condyles, corresponding to the bend of the Elbow. In the flexed position of the Fore-arm, the bulging forwards of the tendon of the Biceps is indicated by a corresponding projection of the skin in this part. Below the skin, is the Sub-cutaneous Areolar tissue, containing in its areolæ some adipose tissue and minute blood-vessels and nervous twigs passing to the skin. Below the subcutaneous areolar tissue, is the superficial fascia of the Fore-arm, which is here very thin and intimately blended with the subcutaneous areolar tissue. Underneath the Superficial fascia are observed some of the cutaneous branches of the Internal and External Cutaneous nerves. The subcutaneous veins are also exposed to view. On the outer side we meet with the trunk of the Radial cutaneous vein, and on the inner side the anterior Ulnar vein joined higher up by the posterior Ulnar. Midway between them and smaller in size is the trunk of the Median Vein, and other smaller and unnamed venous trunks are observed to lie between and to open into these main trunks. The Median Vein divides at the upper part of the space into two branches ; one, Median-Basilic—turning upwards and inwards joins the Basilic Vein, the other—Median Cephalic—directed upwards and outwards terminates in the Cephalic Vein, and a branch sinks beneath the muscles to be connected with the deep veins. The Median Basilic Vein passes in front of the Brachial Artery separated from it by the Apo-

neurotic expansion given by the Biceps Muscle. The anterior cutaneous branches of the Internal Cutaneous nerve are generally seen crossing beneath the Median Basilic Vein, but they sometimes pass over the vein. A branch of the Musculo-Cutaneous nerve crosses beneath the Median Cephalic Vein, and the external Cutaneous branch of the Musculo-Spiral nerve is seen in contact with the Cephalic Vein at the outer border of the Forearm. These nerves as well as the veins are observed to rest on a strong fascia binding down the muscles of the fore-arm. On removing this fascia it is seen strengthened by a fibrous expansion given to it by the tendon of the Biceps Muscle. The fascia is attached on each side to the condyles and lateral ligaments of the Elbow Joint, as well as to the common tendinous origin of the Muscles at the inner and anterior part of the fore-arm.

The parts further exposed to view are the following muscles. Proceeding from without inwards we notice the Supinator Radii Longus, Pronator Radii Teres, Flexor Carpi Radialis, Palmaris Longus and Flexor Carpi Ulnaris, their upper portions. Bounded by the Supinator Longus on the outer side and the Pronator Radii Teres on the inner, we observe the lower termination of the Brachial Artery resting on the Brachialis Anticus Muscle to the inner side of the tendon of the Biceps, its semilunar fibrous expansion being stretched in front of the Artery and directed downwards and to the inner side. From the Brachial Artery, opposite the neck of the Radius arise the Radial and Ulnar Arteries its terminating trunks. To the inner side of the Brachial Artery lies the Median Nerve, dipping downwards and somewhat backwards between the heads of the Pronator Radii Teres. To the outer side of the Artery are branches of the Musculo Spiral Nerve, here lying between the Brachialis Anticus and Supinator Longus Muscles.

The Radial Artery is observed to be comparatively superficial and to follow the direction of the Parent Vessel accompanied by Venæ Comites, and over-lapped by the edge of the Supinator Longus muscle, which must be turned outwards to expose the vessels. They are separated from the Supinator Brevis behind by some areolar and adipose tissue and branches of the Musculo-Spiral Nerve.

Only a small part of the Ulnar Artery is seen, as it passes soon after its origin beneath the flexor muscles attached to the inner condyle. It is separated from the Median Nerve by the outer head of the Pronator Teres. On removing the muscles now examined, the

Flexor Sublimis is exposed with the Extensor Carpi Radialis Longior on the outer side. The Muscular branches of the Median Nerve are also seen, as also the Ulnar Artery and its Venæ Comites resting on the Flexor Profundus. On the outer side lies the recurrent branch of the Radial Artery covered by areolar and adipose tissue, extending upwards between the Supinator Longus and Brachialis Anticus, and furnishing branches to the neighbouring muscles. On the inner side the recurrent branches of the Ulnar, anterior and posterior, are seen frequently arising by a common trunk. Lower down we notice the commencement of the Flexor Longus Pollicis and the Flexor Profundus, the origin of the latter from the Coronoid process embracing the insertion of the Brachialis Anticus into the same process. Overlapped by the contiguous margins of the two Flexor muscles, and resting on the interosseous ligament are the interosseous artery and veins and the interosseous Nerve, the artery a branch of the common interosseous of the Ulnar, and the nerve an offset from the Median. At the inner side of the space, we observe the Ulnar Nerve resting on the Flexor Profundus and under cover of the Flexor Carpi Ulnaris. At the upper part we see the fleshy fibres of the Biceps terminating in a tendon which is observed to twist upon itself and to be applied by a flat surface to the posterior part of the tuberosity, of the Radius, a Synovial bursa being interposed between the tendon and tubercle. The Supinator Radii Brevis surrounds the Radius, and is notched for the insertion of the tendon of the Biceps. The insertion of the Brachialis Anticus into the Coronoid process is also exposed to view. We next come to the ligaments of the Elbow-Joint, and then to the bones themselves. We observe the Ligamentum Teres extending from the coronoid process of the Ulna downwards and outwards to a little below the tubercle of the Radius, and part of the interosseous ligament is seen commencing here, its fibres being directed downwards and inwards.

Proceeding still backwards, we see the posterior interosseous Artery and Nerve, the latter a branch of the Musculo-Spiral, which reaches the back part of the Fore-arm after piercing the Supinator Brevis. The parts that next come into view are the Extensor Ossis Metacarpi Pollicis, Extensor Digitorum Communis, Extensor Carpi Ulnaris, Extensor Minimi Digiti, the posterior interosseous recurrent Artery, the strong fascia at the back of the Fore-arm, the posterior cutaneous branches of the External and Internal Cutaneous Nerves, some superficial veins, subcutaneous areolar tissue, and lastly the integument.

2*nd*. The upper triangle of the neck is that triangular space at the side and front part of the neck, which is bounded by the posterior belly of the Digastric, the Sterno-mastoid and Anterior Belly of the Omo-Hyoid Muscle. Its base formed by the Digastric Muscle is directed upwards, its apex downwards. The following parts are contained within it. Proceeding from before backwards we meet with the skin, the superficial fascia, superficial Cervical Nerves, Platysma Myoides, Cutaneous branches of the Cervical Plexus, the Anterior Jugular Vein, and superior and middle Thyroid Veins. We next come to the deep Cervical fascia, the sheath of the common Carotid Artery, and higher up that of the Internal and External Carotid. Lying on the sheath of the Common Carotid Artery we see the Descendens Noni Nerve directed from without inwards, and forming anastomotic loops with branches of some of the Cervical Nerves. We also see the following branches of the External Carotid in this space; Superior Thyroid, Lingual, Facial, Occipital and Posterior Auricular Arteries. The Internal Jugular Vein and the Pneumo-Gastric Nerve are placed in the same sheath as the common Carotid, the Vein to its outer side and the nerve between and behind them. Higher up above the level of the upper margin of the Thyroid Cartilage, at which the common Carotid divides into the internal and external Carotids, the Internal Jugular Vein and Par Vagum are in close relation with the Internal Carotid Artery. The Hypo-Glossal nerve is seen at the upper part of the triangle turning below the Digastric muscle and behind the Occipital Artery over both Carotids in its course to the tongue. While crossing the Occipital Artery, its gives off the Descendens Noni Nerve. Behind the sheath of the Arteries are branches of the Sympathetic and of the anterior divisions of the Cervical nerves. Still more posteriorly parts of the Longus Colli and Scaleni Muscles, and lastly the Vertebral column. The vessels placed in the space are, it is thus seen, covered by the skin, superficial fascia, Platysma Myoides and the deep Cervical fascia, and are therefore more superficial and more readily accessible than the other parts of the vessels which are deeply placed.

The Anterior Jugular and Thyroid Veins are some times observed to form a plexus in front of the vessels. The Descendens Noni is also sometimes known to lie within the Sheath.

3rd. At the time of birth the Vertebral column is in great part ossified. Each Vertebra with the exceptions to be mentioned, consists of two ossific pieces, one anterior in the situation of the body, and two lateral pieces.

The Axis consists of four pieces, two anterior, situated one above the other, and one on each side.

The Sacrum. In addition to the ossific points common to it with the Vertebræ generally, three more ossific points on each side are observed, one just above the 1st Anterior Sacral foramen, and the other two between the several foramina. The Vertebræ, by the consolidation of which it is formed, are not united to one another by bony matter.

The Cranium. The greater part of the Cranium is ossified. There is absence of bony matter mostly in the situation of the Anterior and Posterior fontanelles. The *occipital* bone consists of 4 parts : 1st, Posterior or Proral part ; 2nd, Condyloid pieces one on each side, and 3rd, an Anterior or Basilar portion. The bone is in great part ossified.

*The Sphenoid Bone.* The greater part is ossified. It consists of *three* pieces, 1st. Small wings and body and united into one, forming the Spheno-orbital portion. 2nd. Great wings and Pterygoid plates of the same side. 3rd. The same parts of the opposite side. Frequently there are separate ossific points for the Sphenoidal crest and spongy bones.

The *Ethmoid.* The lateral masses are in great part ossified. It consists of *two* pieces.

The *Temporal* bone. Its greater portion is ossified ; it consists of *three* pieces. 1st. The Squamous and Zygomatic portions united into one piece. 2nd. The Petrous and Mastoid united into a 2nd piece, and 3rd the Tympanic piece. The *frontal* bone. Greater part ossified and consists of two pieces.

The *Parietal* bone. Its greater part is ossified and it consists of one piece.

*Lower Jaw.*—Ossified, consists of *two* pieces. The superior *Maxillary* bones, the *Malar, Nasal Lachrymal, Palate, and Vomer*, consist of a single piece each.

Long bones. The Shaft is for the most part ossified. There is no ossific point in the extremities of long bones of the upper extremity. There is one for the lower extremity of the Femur. The Carpus is not ossified. The Meta-Carpus is so in great part. The Tarsus ossified in great part.

The Os innominatum. It is ossified to a considerable extent. It consists of *three* pieces. 1. Forming a great part of the *Ilium* and

part of the Cotyloid Cavity. 2. Part of Cotyloid Notch and Ischium 3. Part of the Cotyloid Notch and Pubes. The *Sternum*. A great part ossified consists of one piece. *Scapula* consists of one piece. *Clavicle*. do.

4th. The Glosso-Pharyngeal Nerve is, as its name implies, intended for distribution to the Tongue and Pharynx. It arises by a number of funiculi from the Groove in front of the Restiform body, between it and the Olivary body and above the roots of the Pneumo-Gastric Nerve. Its deep origin is traced to one of the tubercles of grey matter observed in the floor of the fourth Ventricle of the Brain. From its origin, the Nerve is directed outwards over the lobe of the cerebellum termed the Flocculus to the Foramen Lacerum Jugulare. In this foramen it lies anterior to the Pneumo-Gastric and Spinal Accessary Nerves, which are separated from it by a membranous partition, and these by a bony Lamella or membranous partition from the Lateral Sinus behind, which here becomes continuous with the Internal Jugular Vein. In passing through the foramen, the Nerve is contained in a groove or canal in the lower part of the Petrous portion of the temporal bone, and here it has in connection with it two ganglia, named the Jugular and Petrous ganglion. After its exit in the Neck, it is deeply placed but becomes less so towards its termination.

At the base of the skull it is placed between the internal Carotid Artery and the Jugular vein. It is then directed over the Carotid Artery, as it passes towards the Tongue beneath the Styloid Process and the Muscles arising from it to the lower margin of the Stylo-pharyngeus. Thus far the direction of the Nerve is downwards with an inclination forwards, but here changing its course it crosses inwards over the Carotid Artery to the Tongue, forming an Arch on the side of the Neck. In this situation it is placed on the Stylo-pharyngeus and the middle constrictor Muscles, above the Superior Laryngeal branch of the Pneumo-Gastric, and near the tongue it is situated beneath the Hyo-Glossus, and terminates in offsets to the Pharynx, Tonsils and Tongue.

### Ganglia.

1st. Jugular Ganglion. It is placed at the upper part of the Groove. Its length is from half line to one line, breadth from half a line to three-quarters of a line. Its situation is over the external part of the Nerve, and is connected with a portion only of the fibres of the Nerve.

2d. Petrous Ganglion, called also Ganglion of Andersh,* is situated in the lower part of the Petrous portion of the Temporal Bone. It is about three lines in length.

From the Petrous Ganglion, the Tympanic Nerve arises, also filaments to the Par Vagum and Sympathetic Nerve.

*Tympanic branch* (Nerve of Jacobson). Arising from the Petrous Ganglion of the Glosso-pharyngeal, it is directed to a small foramen situated in the plate of bone lying between the commencement of the Carotid Canal and the Jugular Fossa. Through this foramen it passes into the Tympanum at its inner wall where it joins an offset of the Sympathetic, and spreads out into a plexus called the Tympanic plexus, from which filaments are distributed to the membrane, to the Eustachian tube, and one to the Fenestra Rotunda, and another to the Fenestra Ovalis.

The Nerve then gives three connecting branches, one to the Carotid Plexus, another to the large superficial Petrosal, and a third is directed beneath the canal for the Tensor Tympani Muscle to become the small superficial Petrosal, which is then guided by a special aperture in the temporal and Sphenoid bones to the Otic Ganglion. There are three grooves for these branches on the Promontory. A small offset is sent from the small superficial Petrosal to the Facial, as it passes by the Gangliform enlargement.

BHAWOO DAJEE.

## CHEMISTRY.

### ANSWERS.

1. The Chemical relations of Chlorine to the other elements are that it is a salt radicle; as it combines with metals to form haloid salts, and it widely differs from the Acids which combine with metallic and earthy bases to form salts. It closely resembles in its characters Bromine, Iodine, Fluorine, Cyanogen, &c.

The following are the conditions in which Chlorine naturally exists. It is found generally in the Seawater forming Chlorides of Metals, such as Chloride of Sodium, Calcium, Magnesium, &c. but chiefly it is in combination with Sodium forming common Salt or Rock salt, and from which it is obtained for practical purposes.

There are two processes for the preparation of this gas. One consists in heating together Chloride of Sodium, Sulphuric Acid and

* Cruveilhier.

Peroxide of Manganese ; whilst the other consists in heating together Hydrochloric Acid and Peroxide of Manganese. The first may be effected by taking two parts of Sulphuric Acid, one of Peroxide of Manganese, and one of Chloride of Sodium. And then the Materials may be placed in a Retort or Flask and heat applied. Generally there is no need of Heat as the action is set up without it. When the action ensues the Chloride of Sodium is decomposed, and the Sodium is oxidized at the expense of the Peroxide of Manganese and forms Soda which combines with one of the two of Sulphuric Acid to form Sulphate of Soda. Whilst the remaining one of Sulphuric Acid combines with the Protoxide of Manganese, which was reduced to this state by the Sodium taking one of Oxygen from it ; and forms Sulphate of Manganese, whilst the Chlorine of the Chloride of Sodium is set free which may be collected, not over water or Mercury, as the former absorbs the gas in a large quantity, whilst the latter combines with it to form Chloride of the Metal, but by displacement.

The changes that take place during this action may be thus represented.

$$NaCl, MnO^{2} \& 2SO^{3} = Cl, MnOSO^{3} \& NaOSO^{3}.$$

The second process is carried on by heating two parts of Hydrochloric Acid, with one of Peroxide of Manganese. In this case the Hydrochloric Acid, is decomposed ; its two of Chlorine are transferred to the Manganese which is also decomposed. The Oxygen from the Peroxide of Manganese combines with the Hydrogen of the Hydrochloric Acid and forms water, whilst the Chlorine and Maganese form Bichloride of Manganese. This Bichloride is decomposed when the application of heat is continued, into Chlorine, which is liberated and Protochloride of Manganese.

The changes in Symbolic Language may be represented in the following manner.

$$2HCl \& MnO^{2} = 2HO, MnCl \& Cl$$

These are the processes by which Chlorine gas is obtained. It is prepared by the latter process when required in small quantities.

The Properties of Chlorine. It is a gas of a green colour, whence its name is derived, and of a suffocating odour. When a lighted taper is introduced into a jar of Chlorine it is instantly extinguished. The Metals Antimony and Arsenic, when powdered and thrown into a

jar of this gas burn and produce beautiful scintillations. Phosphorus also takes fire in this gas. If a paper dipped in oil of Turpentine be introduced into Chlorine, it burns. Also Brass and Tin foils burn in it. Its specific Gravity is 2,470 and can be condensed to the liquid state by a pressure of about four Atmospheres.

Water absorbs from about 100 to 150 cubic inches of the gas. Chlorine combines with Alkaline earths and forms Chlorides of the earths, such as Chloride of lime, &c. Chlorine is an oxidizing agent, hence its abundant use in the preparations of many substances. Chlorine when in the nascent state dissolves Gold and Platinum. Chlorine water when exposed to light is decomposed, hydrochloric Acid is formed and oxygen is given off. When it is suddenly brought in contact with Hydrogen gas, it combines with an explosion to form Muriatic Acid; but when slowly brought in contact, it makes no noise. Chlorine gives with Nitrate of Silver a white curdy Precipitate of Chloride of Silver which blackens on exposure to air: it is insoluble in Nitric Acid but soluble in Ammonia.

Chlorine is employed in the arts for decolourizing or bleaching vegetable as well as animal substances.

Its further application is in decomposing many noxious and poisonous gases mixed with the Atmosphere, such as Miasmata and other like poisons. And also Sulphuretted Hydrogen, Ammonia, &c.

2. The conditions in which Arsenic is naturally found, are the following: It is found in combination with Nickel, Cobalt and very rarely Chromium forming Arsenurets of the Metals. It also exists in the condition of Orpiment constituting its Tersulphuret. It is also found in the Metallic state.

The compounds of Arsenic with Oxygen are two, with Hydrogen one, and with Sulphur three. They are named as follows:

*Arsenic and Oxygen.*

Arsenious Acid ..... $AsO^3$

Arsenic Acid ..... $AsO^5$

*Arsenic and Hydrogen.*

Arsenuretted Hydrogen ..... $AsH^3$

*Arsenic and Sulphur.*

Bisulphuret of Arsenic or Realgar ..... $AsS^2$

Tersulphuret of Arsenic or Orpiment..... $AsS^3$

Pentasulphuret of Arsenic ..... $AsS^5$

The following are the best methods for distinguishing Arsenious Acid.

If Arsenious Acid be heated in a wide tube, it is volatilized and sublimed in the cooler part of the tube in the same form. If it be heated with carbon in a narrow tube, Metallic Arsenic of a steel grey colour is obtained. Then, if to a solution of Arsenious Acid, made by boiling it in water, Ammoniaco Sulphate of Copper be added, a greenish precipitate of Arsenite of copper is thrown down. This is called Scheele's Green, as he was the person who first investigated its nature. In the same manner if Ammoniaco-Nitrate of Silver be added, to it, brilliant Yellow Arsenite of Silver is precipitated. In these tests there should not be an excess of Ammonia, or in other words, the solutions should not be alkaline, as the alkali Ammonia dissolves the precipitates. Further, if current of Sulphurretted Hydrogen gas be passed through a solution of Arsenious Acid, Tersulphuret of Arsenic of an orange yellow colour is obtained.

The following two processes are the most satisfactory means of distinguishing Arsenious Acid. They are named after their respective investigators, viz. Marsh and Reinch.

Reinch's process consists in boiling the solution of Arsenious Acid in Muriatic Acid with some copper chips. In this case Metallic Arnenic is deposited upon the copper chips. These chips may then be taken out and put in a tube and heated, by which the metal is oxidized by taking oxygen from the Air and forms Arsenious Acid, which is deposited like a ring in octohedral crystals. These then may be dissolved by boiling in distilled water, and then applying the above three liquid tests.

The Marsh's process is carried on in a special Apparatus termed Marsh's Apparatus. It consists of a tube resembling somewhat the letter U. At one of its limbs it has a bulb. Into the bulb the suspected Liquor and Sulphuric Acid are put, and a piece of Zinc is suspended in it. The zinc decomposes the water of the Sulphuric Acid, combines with its oxygen to form oxide of zinc, which with the Sulphuric Acid forms Sulphate of the oxide of zinc, whilst the Hydrogen is set fire. The nascent Hydrogen thus set free, decomposes the Arsenious Acid, and combines with the Arsenic in the proportion of one of the latter to three of the former to form Arsenuretted Hydrogen gas, which may be recognised by its giving a Garlic odour, and producing a bluish white flame when lighted. This gas may be decomposed into metallic Arsenic Acid and Hydrogen gas. When allowed to pass through a red hot tube, the metallic Arsenic is deposited of a steel grey colour, a little beyond the point at which

the tube is heated, and this serves to recognise it from Antimoniretted Hydrogen. Then the portion of the tube containing this brilliant Metallic deposit, may be filed and introduced into a wide tube. On then applying heat to the tube, the Arsenic is oxidized and forms Arsenious Acid as in the former case, and this afterwards may be treated in the same manner as has been mentioned in the former process.

However, it must be observed in these cases that the materials used do not contain any arsenic as the substances are liable to be mingled with it during the various processes they are to undergo in their preparation and preservation. These errors should then be carefully avoided and guarded against, or else the processes will mislead.

Orpiment may be distinguished from all other substances in this way. First, it is capable of being volatilized and sublimed when heated; and secondly, if it be heated with Blackflux (Carbonate of Potash and Carbon), Metallic Arsenic is obtained. Thus the Sulphur combines with the Potassium and forms Sulphuret of Potassium, whilst the oxygen of the Potash from the Blackflux combines with the carbon and forms Carbonic Acid and Carbonic Oxide gases, which are given off and Metallic Arsenic is left behind.

The changes that take place during this action may be thus represented in symbols:

$$AsS^{3}\&3(KOCO^{2}+C)=3KS,As,3CO^{3}\&3CO$$

3. The following changes occur in the preparation of a spirituous Liquor. When the fermentation of any Saccharine or amylacious substances is taking place through the agency of a ferment, Alcohol, Carbonic Acid and water are the results. Thus the ferment which is itself decomposing, induces decomposition in the substance with which it happens to be placed. A portion of the Carbon and a portion of the Oxygen from the Saccharine substance unite and form Carbonic Acid, whilst a portion of the Oxygen and Hydrogen unite and form water. And lastly, the remaining Carbon Hydrogen and Oxygen arrange themselves in such a manner as to form Alcohol.

The changes may be thus shown.

Sugar. Alcohol.

$$C^{24}H^{28}O^{28}=4(O^{2}C^{4}H^{6})\ 8CO^{2}\&4HO.$$

In the preparation of Vinegar from Toddy, first the albumen which exists in the Toddy and which is a ferment sets up decomposition in

the Sugar of the Toddy. When its elements unite in the proportion to form Alcohol, which is then converted into a substance called Aldyhyd which is Alcohol minus two of Hydrogen. This latter takes two of Oxygen from the air and forms hydrated Acetic Acid.

And thus Vinegar is formed. The following is a representation of the changes that take place in symbols.

$$O\,C^{4}H^{6} = H^{2} \& H\,C^{4}O^{2}.$$

$$H\,C^{4}O^{2} \& 2\,O = O\,C^{4}H^{4} \text{ Acetic Acid.}$$

4. The changes that occur in the generating cell of a voltaic circle may be thus explained. The elements of a voltaic circle are two solids and one liquid. Then, if we take Hydrochloric Acid as the liquid and copper and zinc as the solid elements, then the Hydrogen will be given off at the surface of the copper whilst the Chlorine will combine with the zinc and form Chloride of Zinc.

The changes in the decomposing cell are that if we take for instance Iodide of Potassium, then the Iodine will be set free at the positive pole or Cathode, and the Potassium at the Negative pole or Anode.

SHAMRAO NARAYEN.

## PHYSIOLOGY.

1. The ultimate elements which result from the decomposition of the structures of the animal body during life, are Carbon, Hydrogen, Oxygen, Nitrogen, Phosphorus, Sulphur, Sodium, Chlorine, and Magnesium.

The channels by which they are separated, and the forms in which they are separated are these :

| | | |
|---|---|---|
| Kidneys | Urea | C. H. N. |
| | Uric Acid | C. H. N. O. |
| | Lactic Acid | C. H. O. |
| | Phosphate of Soda | P. Na. O. |
| | of Magnesia.. | P. Mg. O. |
| | of Ammonia.. | P. O. N. H. |
| | Chloride of Sodium | Cl. Na. |
| | Some other less important substances. | |

Copper has been detected in urine by Dr. O'Shaughnessy.

| | | |
|---|---|---|
| Skin | Water | H. O. |
| | Carbonic Acid | C. O. |
| | Lactic Acid | C. H. O. |
| | Saline Substances. | |
| Lungs | Carbonic Acid | C. O. |
| | Water | H. O. |
| | Volatile organic matters. | |
| Liver | Cholesterine | C. H. |
| | Fatty Acid | C. H. |
| | Colouring principle | |
| | Soda in combination with the Acid &c. | Na. O. |
| Intestinal Mucous glands. | Mucus | C. H. O. N. |
| Other intestinal glands | The nature of their secretions is not well understood. | |
| Sebaceous glands | | C. H. |

However all the water eliminated from the system, is not a product of the decomposition of the tissues, but the greater part of it is evidently from what is drunk and has only formed part of the blood, and not of the more solid tissues. Also, of all the Oxygen eliminated through the lungs and other parts, the greater portion is that introduced by respiration and brought to the tissues by the red corpuscles chiefly.

Of these excretory organs, the kidneys are especially instrumental in ridding the blood, of its Nitrogen ; the liver, of Carbon and Hydrogen ; and, the lungs and skin, of Carbon and Hydrogen also.

2. The organic functions in which nervous influence is operative, the kind of nervous influence and the mode in which it is influenced in each instance, are as follows :

*Digestion.* Here, the introduction of food into the mouth, its reduction by means of mastication, and its passage into the stomach by the process of deglutition, are all under nervous influence. The first and second parts above mentioned are performed through influence of the voluntary kind. Whenever an individual wishes it, he introduces food into his mouth by putting one set of muscles into action, and chews it by putting another set of muscles into action. However, in infants, before volition can take place, the nipple of the mother is introduced into their mouth, and it is grasped between the lips and sucked : and this has been done in infants born anencephalous. Hence this is evidently in them a reflex action. Deglutition

is in all an action of the reflex kind. The food having once got behind the anterior palatine arch, it will be swallowed in spite of the will. The act is performed by the bolus of food making an impression on the extremities of the fibres of the glosso-pharyngeal nerve, and these conveying the impression to the medulla oblongata, where a reflex motor impulse is generated and brought by efferent fibres through the par vagum and pharyngeal nerve to the constrictor muscles of the pharynx, which contract upon the food and urge it forwards. The casting off from the body of the useless remains of the food (added to the secretions of the intestinal canal and part of the bile), may also be included in the function of digestion and mentioned here, as, it also, is under nervous influence, and of the reflex kind. The presence of fæcal matter in the lower part of the intestinal canal makes an impression on the peripheral extremities of excito-motor fibres, which convey it to the spinal chord, and in respondence to it, a reflex motor impulse is sent from the chord to the abdominal muscles, whose contraction forces the sphincter ani to give way: and thus the process of defœcation, as it is called, takes place.

*Respiration.* Here the introduction of air into the lungs is effected through nervous influence. In this instance also, it is of the reflex kind. The presence of venous blood in the capillaries of those organs impresses the afferent extremities of the par vagum, which impression is conveyed to the medulla oblongata, whence a reflex motor impulse is sent through the phrenic and intercostal nerves to the diaphragm and intercostal muscles, which in obedience to it contract and lead to the expansion of the chest, which is followed by the entrance of air. These two are the only organic functions (besides that of Reproduction) in which nervous influence is absolutely necessary. There are other organic functions in which the nervous system exercises some influence; but as this influence is not necessary to them, I need not mention them here.

3. The human heart consists of four compartments, one auricle and one ventricle of the right side, and corresponding parts of the left side. The cavities of one side do not communicate with those of the other. The right side having no other relation with the left than that of its juxta-position for the saving of space and material, may be said to be a separate heart. Its function also, is different from that of the other. It is subservient to pulmonary circulation, while the left, to the systemic circulation. Now, the heart of a molluscous animal consists of two cavities, a ventricle and an auricle:

It is a systemic heart containing arterial blood, which, by the contraction of its ventricle, is sent to the different parts of the body and having supplied materials for its nutrition, &c. returns ; but before it gets to the heart, it goes through another set of capillaries—those of the gills of these animals : here it is exposed to the action of the air, contained in the medium in which these animals live, and being arterialized, is returned to the auricle of the heart—thence to the ventricle ; and then follows the same course again.

The Heart of a Fish also consists of two cavities, but is a pulmonary heart—placed at the commencement of pulmonary circulation and containing venous blood. The contraction of the ventricle sends the blood to the gills ; here it is exposed to the influence of the air in solution in the water ; and being aerated, goes directly to the systemic vessels and capillaries ; and having subserved the purposes of nutrition, &c. returns to the auricle of the heart. However, the blood circulating through the posterior half of the body of the Fish, gets into the portal system and the Liver, and there having served its purpose goes to be mixed with the blood circulating in the upper part.

The Heart of a Reptile again consists of three chambers, two auricles and one ventricle. One of the auricles receives venous blood, and the other arterial blood ; both pour it into the ventricle ; this forces it into an arterial trunk which immediately divides into two parts : one takes it to the lungs, the other to the different parts of the body for its nourishment. This latter returns to one of the auricles in venous state, and the other portion returns in an arterial state, and both mixing together in the ventricle follow the course above mentioned.

4· If three or four fibres of striated muscular tissue be mechanically irritated, they will contract, not all at the same time, but every other of them ; and the intermediate ones, not in a state of contraction, will assume a zig-zag direction so as to become of the same length as the others—the shortening of those in the state of real contraction will be owing to the approximation of the ends of the corpuscles composing the elementary fibre. But the adjacent fibres, which are not irritated, will not be affected.

When non striated muscular fibres are mechanically irritated, they also are thrown into contraction, but all of them at once and in a slow or tonic contraction, and this will be gradually extending from fibre to fibre, to those not irritated.

P. F. Gomez.

## PRACTICE OF MEDICINE.

1. The diseases of the Chest that are attended by dulness on percussion in some of their stages are Pleuritis, Pneumonia, Phthisis, Pulmonary Apoplexy, Hydrothorax, and Pericarditis.

*Pleuritis.* This disease is inflammation of the Pleura, or the serous lining of the cavity of the chest. It is characterised by pain of a lancinating kind, in the part affected and more or less dyspnœa. The inflammation going on unchecked, leads to some of its results. Thus there may be effusion of serum, coagulable lymph, or puriform or seropuriform matter, which filling the cavity of the Pleura, leads to the dull sound on percussion of the chest. The dulness on percussion arising from this cause may be distinguished from that of other diseases, by the following signs and symptoms.

The affected side appears somewhat more prominent than the other. The intercostal spaces are less marked or quite effaced, or if the quantity of the matter contained in the sack be great, the soft parts contained in the intercostal spaces, may protrude a little beyond the ribs. The vibrations of the voice are not at all felt, or they may be weaker than those of the opposite or unaffected side. If the matter be contained in the left side of the chest, the Heart may be displaced and its sounds heard behind or even to the right side of the sternum. In this case also the spleen is displaced, and it can be felt below the margin of the left false ribs. If the effusion as a result of Pleuritis, be situated in the right side of the chest, there will be no displacement of the heart, but the liver will be depressed, and we will feel an indurated swelling, below the margin of the right false ribs. If we now apply the stethoscope to the affected side, we will find no sounds if at all we may hear Bronchial sounds in the dorsal region, near the spinal column, the lung being pressed backwards and inwards towards it. The dulness of Pleuritis varies with the position of the patient.

*Pneumonia.* This disease is inflammation of the parenchymatous structure of the lungs, including under this term, the cells, the intercellular areolar tissue, and the ultimate minute ramifications of the bronchi where they terminate in the cells.

This disease is divided into three stages according to the results of the inflammation. The dulness on percussion of the chest in this disease is found in the 2nd stage. The first stage consists in bloody engorgement or sanguineous congestion, which is the stage of inflam-

mation. If a piece of lung in this stage of Pneumonia, be examined after death, we find it to be red and filled with blood, and when put into water, to float over its surface, and if we make an incision, bloody, frothy serum exudes. If this stage be allowed to pass on unchecked, it leads to effusion of coagulable lymph and thus to solidification of the Lung. When the effusion has thus taken place, the air cells become blocked up and no air passes into them, which ultimately leads to the dulness on percussion. The signs and symptoms, distinguishing the dulness of Pneumonia from that of the other diseases, are the following:—There is more or less difficulty of breathing and cough. The expectoration is of tenacious mucous sputa, sometimes of a rusty red colour, which latter circumstance is taken by some pathologists as a pathognomonic sign of this disease. The intercostal spaces are well marked, but the ribs of the affected side are not raised in the act of inspiration, as on the other side. The dulness of Pneumonia is generally found, first, in the lower lobes of the lungs, and it does not vary with the position of the patient, as in Pleuritis. The vibrations of the voice are more marked than on the opposite side. There is no displacement of either the Heart or Spleen in case of the left lung being hepatised or of the Liver in the case of the right. But if the left lung be hepatised, the sounds of the heart are heard over a considerable surface of the left side of the chest. The dulness of Pneumonia is not slow in its progress, but becomes more and more marked as the disease advances.

If the Stethoscope be now applied over the dull surface of the chest, we may hear Bronchial respiration.

*Phthisis Pulmonalis.* The disease is the deposition of tubercles of cacoplastic lymph, in the substance of the lungs. It is sometimes a consequence of a low chronic inflammation occurring in the substance of the lung, in that diathesis of the body called Scrophulous. Sometimes when the diathesis is well marked, the deposition of tubercles may not be preceded by inflammation. When a large number of these tubercles are deposited, they lead to the solidification of the lung, and thus to the dull sound on percussion. The dulness of this may, but with some difficulty, be distinguished from that arising from Pneumonia and other diseases.

The patient has slight chronic bronchitis. He becomes daily emaciated and the dulness comes on very slowly and never becomes so well marked, as in Pneumonia. As the disease generally attacks the upper lobes of the lung first, we find the dulness of the upper

part of the chest. The Physical sign under the Stethoscope in the part of the chest that is dull, is the bronchial respiration. While we find these signs in the affected lung, we find the presence of tubercular deposition in other parts of the body, which circumstance strengthens the supposition of the presence of tubercles in the lung. There is some difficulty of breathing but not so marked as either in Pleuritiis, Pneumonia, or Hydrothorax.

*Pulmonary Apoplexy.* Pulmonary hœmorrhage is the consequence of congestion or determination of blood in the capillaries of the lung.— When it is of a considerable extent, it leads to dulness on percussion of the Chest, but the dulness is generally circumscribed and is not so well marked as in the other diseases.

It is very difficult to distinguish the dulness arising from this cause from that of the other diseases. There may be under the Stethoscope mucous and subcrepitous rale from the air passing through the fluid blood or the serum of the coagulated blood. There is often accompanying Pulmonary Apoplexy, Hœmoptysis, which then becomes a strong proof of the presence of blood in the lungs. The history of the patient may probably aid us in the diagnosis.

*Hydrothorax.* This disease is the dropsy of the Pleura, and is a consequence of either determination of blood to or congestion of blood in the capillaries of the Pleura. The deranged circulation of blood in the capillaries leads to effusion of serum in the cavity of the membrane.

The signs and symptoms of this disease, after the effusion has taken place, resemble very closely those of the pleuritic effusion. As Hydrothorax occurs as a part of the general dropsy, the presence of dropsical swellings in other parts of the body lead to the belief of the effusion in the cavity of the Pleura being a dropsical one and not pleuritic.

The symptoms that preceded the effusion into the sac may also lead to the diagnosis of the disease. Thus the Pleuritic effusion is generally preceded by pain, whilst that of Hydrothorax is not.

*Pericarditis.* Pericarditis is inflammation of the serous covering of the Heart. This inflammation like all others, when left unchecked, leads to the effusion of serum, coagulable lymph or purulent matter more or less mixed with serum. When the effusion of one of the above mentioned substances takes place, the prœcordial region becomes dull.

The dulness of this disease may be distinguished from that of the other diseases, in the following way.

It is confined to the prœcordial region, and when the Stethoscope is placed over it, we may hear the vesicular murmur or some rale, in that part of the lung which overlaps the heart. As Pericarditis generally accompanies Rheumatic affections of the large joints, the presence of the latter may also throw some light on the diagnosis, of the dulness from Pericarditis. The general symptoms of Pericarditis that precede the dulness, may also aid us in the diagnosis.

Aneurism of the Arch of the Aorta and some malignant diseases of the lungs, may lead to the dull sound on percussion, but they are very rare.—Pneumothorax is Pleuritic effusion with air in the cavity of the chest.

2nd. Remittent fever ushers in by shiverings. The patient feels chilly, although the external temperature of the body may not be reduced below the natural standard. The action of the vascular system becomes slightly depressed. This the cold stage of the fever, remaining for some time, is soon followed by the 2nd or the hot stage of the fever, characterized by increased heat of skin. The face becomes flushed, the conjunctivæ of the eye somewhat injected. The vascular system becomes excited. Thus there is frequency of pulse. The action of the heart is increased. All the other functions of the body are generally deranged. Thus the hot skin becomes dry and rough. The tongue is dry and coated with a fur. The patient feels thirsty, the appetite is impaired, the bowels become costive. There is often headache, vertigo and delirium. Sometimes the influence of the nervous system is defective in its action. Thus there is some loss of the action of the voluntary muscles and the patient feels weary. This stage is followed after a time, by an abatement or remission of all the symptoms. Thus there is but slight heat of skin, the pulse is slightly frequent. The skin is somewhat moist and it loses the roughness. The tongue becomes moist, the head symptoms also lessen in severity. There is in fact an improvement of all the symptoms but not a perfect cure. The stage of remission is again followed by that of exacerbation, and thus they continue for a length of time. Each period of exacerbation leaves the body in a debilitated condition. The debility increasing by the successive periods of excitement, at last the system becomes so much reduced, that all the symptoms assume the character of those of the Typhoid fever. Thus the pulse becomes feeble and frequent, and sometimes intermittent. The tongue dry and coated with a brown fur and tremulous. There are involuntary twitches of the muscles

of the limbs and subsultus tendinum. The patient has muttering delirium and passes his urine and fæces involuntarily in bed.

The predisposing causes of this disease are, debility from previous sickness, or defective food, breathing impure atmosphere, habitual residence in hot climates, exposure to cold and moist air. Whilst the exciting cause is the poison of malaria, which acting on the debilitated system brings about the disease.

The disease may terminate fatally either by coma or by asthenia, but the great danger to life in this disease, is its tendency to lead to inflammation of and determination of blood to the internal organs. Thus it may lead to inflammation of or determination of blood to the Brain, and then implicating the medulla may lead to death by coma. Death by asthenia is brought about by the exhausting influence of the inflammation of internal organs, such as the Intestines; and also by the debility caused by the recurrence of the exacerbations of the Fever itself.

The indications of cure in this disease are, 1st. To diminish the excitement of the vascular system. 2nd. To check the recurrence of the exacerbation by which we also prevent the tendency to inflammation of the internal organs; but when the inflammation is once excited, the indication is to check them by the ordinary means adopted for them in their Idiopathic state, bearing in mind, that they will not bear the same depletion that they would in their Idiopathic state, and lastly when there is a tendency to death, either in the way of asthenia or coma, to obviate the tendency. Thus in the first case, we should have recourse to stimulants, and to nourishing and digestible articles of food; and in the latter case, to remove the derangement of the circulation of blood that might have produced the coma, by means of blisters, leeches, &c.

3rd. The inflammatory diseases of the Region of the Abdomen are, Peritonitis — Hepatitis, Gastritis, Enteritis, Muco-enteritis, Dysentery, Nephritis, Splenitis.

Peritonitis is inflammation of the Peritonium, the serous covering of the abdomen.

There are two degrees of Peritonitis, viz., acute and chronic. The acute form may terminate by effusion of serum and coagulable lymph, which may either degenerate into pus, and become more or less mixed with serum, or, become organised and agglutinate together the different convolutions of the intestines and form adhesions between them and the abdominal parieties. The Chronic may lead

to the effusion of coagulable lymph which degenerating into pus and mixing more or less with serum, may fill the cavity of the Peritonium. There is another kind of Peritonitis, occurring in puerperal women, which leads to the formation of seropuriform matter in the sac.

Hepatitis, or inflammation of the liver, is also of two degrees, viz. acute and chronic. The acute inflammation leads to softening of the structure of the liver and also to the effusion of lymph, which degenerating into pus, forms abcesses in the structure of the organ. The Chronic inflammation leads to effusion of lymph which becomes organized and leads to hypertrophyof the areolar tissue, which pressing upon the lobular structure, brings about atrophy of the parts.

Gastritis is inflammation of the mucous membrane of the stomach. Acute Gastritis, as an Idiopathic disease, is very rare. It is generally produced by irritating substances taken into the stomach.

As a result of this inflammation, there may be softening of the membrane or ulceration of it. As a result of chronic gastritis, there takes place effusion of coagulable lymph in the submucous tissue, which becoming organized causes hypertrophy of the membrane.

Enteritis is inflammation of the muscular and serous coats of the intestines. As a result of this disease which is both acute and chronic, there may be softening of the muscular coat and the loss of its vital properties, and there is also effusion of coagulable lymph in the subserous tissue which causes its hypertrophy.

Muco-Enteritis, or the inflammation of the mucous membrane of the small Intestines, is both acute and chronic. The Acute may lead to effusion of serum, more or less tinged with blood, on the surface of the mucous membrane. It may also lead to the effusion of puriform matter over the free surface. Ulceration and softening of the mucous membrane may also result from this inflammation. The Chronic inflammation may give rise to ulceration of the membrane, or to hypertrophy of the submucous tissue by means of the effusion of coagulable lymph. The scrophulous inflammation of the mucous membrane of the Intestines gives rise to tubercular depositions in the submucous tissue.

Dysentery or Colitis, is the inflammation of the mucous membrane of the colon or large Intestines. There are two degrees of this inflammation, viz., Acute and Chronic. The Acute may give rise to effusion of serum tinged with blood—to ulceration of the mucous membrane and to softening of it. The Chronic may give rise to thickening of the mucous membrane by the effusion of coagulable

lymph, which may either be granular or flaky, on the surface of the mucous membrane. It may also lead to ulceration of the membrane.

Nephritis is the inflammation of the kidneys. Under this term are included four distinct diseases, viz., Perinephritis, Nephritis, Pyelo, Nephritis and Pyelitis. Perinephritis is inflammation of the external covering of the kidney. Nephritis strictly so called, is inflammation of the tubular portion of the kidneys. Pyelo Nephritis is inflammation of the mucous membrane of the pelvis of the kidney and of its tubular structure. Pyelitis is inflammation of the mucous membrane of the pelvis of the kidney alone. As a result of the acute inflammation, there may be softening of the structure of the kidneys. As a result of the chronic, there may be tubercular degeneration of the kidney, called Brights' disease.

ANUNTA CHUNDROBA.

# APPENDIX (M).

## STUDENTS OF 1846-47.

*Tabular Statement exhibiting the classification of the 3rd year Students in accordance with the results of the examination held from 22nd March to 5th April 1849; the lowest number marks the first in merit.*

| | | † Anatomy. | ‡ Materia Medica. | * Institutes of Medicine. | § Surgery. | ‖ Medicine. | Total. | REMARKS. |
|---|---|---|---|---|---|---|---|---|
| 1 | Anunta Chundroba ..... | 4 | 1 | 4 | 1 | 1 | 11 | * The examination only in the Physiological Division of the course. The general result is good. |
| 2 | Sebastian A. D. Carvalho. .... | 3 | 2 | 3 | 2 | 4 | 14 | |
| 3 | Bhawoo Dajee ..... | 1 | 6 | 1 | 2 | 6 | 16 | |
| 4 | J. C. Lisboa..... | 2 | 7 | 5 | 3 | 3 | 20 | † General result in Anatomy good. |
| 5 | Paul Frances Gomez ..... | 6 | 8 | 2 | 5 | 5 | 26 | ‡ General result in Materia Medica pretty good. |
| 6 | Merwanjee Sorabjee..... | 5 | 3 | 6 | 4 | 10 | 28 | |
| 7 | Atmaram Pandurung ..... | 7 | 9 | 8 | 6 | 2 | 32 | § Surgery and Medicine fair for first year Students in these branches. |
| 8 | Muncherjee Sorabjee..... | 8 | 4 | 7 | 6 | 7 | 32 | |
| 9 | Burjorjee Dorabjee..... | 13 | 5 | 10 | 8 | 8 | 44 | |
| 10 | Naserwanjee Bomanjee..... | 10 | 10 | 11 | 7 | 9 | 47 | |
| 11 | Dosabhoy Bazunjee. ..... | 12 | 12 | 12 | 9 | 12 | 57 | ‖ This Student unavoidably absent in Materia Medica, Surgery, and Medicine. |
| 12 | Ardaseer Jamsetjee ..... | 11 | 11 | 13 | 10 | 13 | 58 | |
| ‖ | Furdunjee Jamsetjee ..... | 9 | 0 | 9 | 0 | 0 | 0 | |

C. MOREHEAD,
*Supt. Grant Medical College.*

## Students who entered in the session 1847-48.

*Tabular Statement exhibiting the classification of the 2nd year Students in accordance with the results of the examinations held on the 22nd, 23rd, 24th, 26th, 27th, 28th, 29th, 30th, March and 4th April 1849; the lowest number marks the first in merit.*

| | | * Anatomy. | † Chemistry. | ‡ Institutes of Medicine. | § Materia Medica. | Total. | Remarks. |
|---|---|---|---|---|---|---|---|
| 1 | Narayen Dajee..... | 1 | 2 | 1 | 1 | 5 | * General result of Anatomy pretty good. |
| 2 | Shamrao Narayen ..... | 3 | 1 | 2 | 2 | 8 | † Of Chemistry good. |
| 3 | Sadashew Hemraj ..... | 2 | 4 | 4 | 3 | 13 | ‡ Physiology bad. |
| 4 | Balcrushna Chintoba ..... | 4 | 3 | 3 | 4 | 14 | § Materia Medica indifferent. |

## Students who entered in the session 1848-49.

*Tabular Statement exhibiting the classifications of the 1st year students in accordanca with the examination held on the 22nd, 23rd, 28th, 29th, 30th March and 5th April.*

| | | * Anatomy. | † Chemistry. | Total. | Remarks. |
|---|---|---|---|---|---|
| 1 | Rustomjee Byramjee..... | 1 | 1 | 2 | * Pretty good. |
| 2 | Palunjee Pestonjee..... | 2 | 2 | 4 | † Pretty good. |
| 3 | Wittul Anunt..... | 3 | 3 | 6 | |
| 4 | Balcrushna Sackaram..... | 4 | 4 | 8 | |
| 5 | Harichund Chundroba..... | 5 | 5 | 10 | |

# APPENDIX (N).

## DONATIONS TO THE MUSUEM.

*Prepared and presented by Bhawoo and Narayan Dajee.*

1st. The upper extremity injected. The veins, arteries, and nerves minutely dissected.

2nd. Mal-position of the Right Kidney which is situated in the Pelvis, the right renal artery is given off from the right common Iliac and the left just above the bifurcation. The arteries and veins injected.

3rd. Preparation injected shewing the carotids arising from the arch of the Aorta by a single trunk, the right subclavian arising to the left of the left subclavian and passing behind the Trachea and Œsophagus to the right side.

4th. Injected preparation shewing the relations of the Portal Vein, the Hepatic Artery and Hepatic Duct at their entrance into the Liver.

5th. The skull of a Mongoose.

6th. A Specimen of Madrepore from the Maldive Islands.

*Prepared and presented by Burjorjee Dorabjee & Dosabhoy Bazunjee.*

1. Injected preparation of the heart Aorta and its branches given off from the Arch shewing their relations to the Lungs and Trachea.

2. Injected preparation of the division of the common Iliac Artery of the right side, shewing the relations of the external Iliac to Pouparts ligament, and the origin from it of the Obturator Artery, also the relations of some of the branches of the Internal Iliac.

*Prepared and presented by Atmaram Pandurung.*

1. Dried preparation shewing the minute distribution of the nerves of the head and neck.

2. Skeleton of a Female Jackall.

*Prepared and presented by Merwanjee Sorabjee.*

1. The leg injected; the arteries and nerves minutely dissected.

*Presented by J. J. Hospital.*

1st. An upper lobe of one of the lungs in which tubercles are abundantly disseminated, and a tubercular excavation, the size of a walnut at the apex (the most depending part of the preparation.)

2nd. The mucous membrane of part of the large intestines, the subject of ulceration, which has nearly perforated all the coats in one place.

3rd. The mucous coat of part of the large intestines in a state of hypertrophy.

4th. Gangrenous excavation of upper lobe of left lung with grey induration of the rest.

5th. A specimen of Cirrhosis of the Liver.

6th. A specimen of Bright's disease.

7th. A fibro cartilaginous tumour removed by Mr. Peet from the Epigastric region of an old Mussulman.

8th. Specimen of Bright's disease of the Kidney.

9th. Aneurism of the Aorta injected and dried with the heart and lungs, and their relations to the vertebral column.

10th. Hypertrophied Scrotum removed from a Dhobee by J. Peet, Esq.

11th. Aneurism of the carotid artery of the left side.

12th. Urinary calculus removed by J. Peet, Esq. from an old Parsee.

13th. Upper part of the skull, of a Seedi, exhibiting a perforated fracture inflicted by a Constable with the handle of a hunting whip.

14th. Fractured skull of an old man thrown down by a buggy.

15th. A urinary calculus, removed by Mr. Peet.

16th. A gravid uterus about the 4th month, opened on one side shewing the fœtus and the attachment of the Placenta.

*Presented by L. R. Rivett, Esquire.*

1. Specimen of the Draco volans.

*Presented by J. Reynolds, Esquire.*

The inner surface of the Rectum in a granular state from old disease.

*Presented by J. Deas, Esquire.*

Two Fœtuses adherent by the chest. Heads and bodies double apparently at the full period of gestation.

*Presented by H. J. Carter, Esquire.*

The head of a woman called Oomee found buried in a house at Girgaum, having been murdered by a blow extensively fracturing the skull.

*Presented by A. H. Leith, Esquire.*

The face and neck of an anencephalus fœtus.

*Presented by Captain Ingleficld.*

A stuffed sword fish.

*Presented by H. Magrath, Esquire.*

Aneurism of the Aorta.

*Presented by G. Maitland, Esquire.*

Aneurism of the Aorta with thick concentric layers of coagula.

# APPENDIX (O).

## STATEMENT OF THE ACCOUNTS

OF THE

## ANDERSON, FARISH, AND CARNAC

## SCHOLARSHIP FUNDS.

*Dr.*——*ANDERSON Scholarship in Account Current*

| 1848 | | | Rs. | A. | P. | | Rs. | A. | P. |
|---|---|---|---|---|---|---|---|---|---|
| May | 2 | To Cash paid to C. Morehead Esq. Superintendent Grant Medical College, being the amount of Atmaram Pandurung's pay for last month ..... | 20 | 0 | 0 | 364 | 1 | 3 | 1 |
| June | „ | „ Ditto ditto ditto ditto.... | 20 | 0 | 0 | 334 | 1 | 1 | 6 |
| „ | 25 | „ Ditto ditto Sudashew Hemraj's. pay from 16th April, to 31st May last ..... | 15 | 0 | 0 | 312 | 0 | 12 | 6 |
| „ | „ | „ Ditto do. J. C. Lisboa's pay from ditto to ditto ..... | 22 | 8 | 0 | 312 | 1 | 2 | 5 |
| July | 4 | „ Ditto ditto on account of the Scholarship ..... | 45 | 0 | 0 | 301 | 2 | 3 | 7 |
| Aug. | 1 | „ Ditto ditto ditto .... | 45 | 0 | 0 | 273 | 2 | 0 | 3 |
| „ | 8 | „ Ditto to H. Carter, Esq. Offg. Secretary Board of Education, on account of the scholarship as per Government order dated 13th ultimo ..... | 150 | 1 | 1 | 266 | 6 | 8 | 11 |
| Sep. | 2 | „ Ditto to C. Morehead, Esq. Supt. Grant Medical College on account of the Scholarship ..... | 45 | 0 | 0 | 241 | 1 | 12 | 6 |
| Oct. | 2 | „ Ditto ditto ditto ..... | 45 | 0 | 0 | 211 | 1 | 8 | 11 |
| Nov. | 1 | „ Ditto ditto ditto ..... | 45 | 0 | 0 | 181 | 1 | 5 | 5 |
| Dec. | 2 | „ Ditto ditto ditto ..... | 45 | 0 | 0 | 150 | 1 | 1 | 9 |
| 1849 | | | | | | | | | |
| Jan. | 2 | „ Ditto ditto ditto ..... | 45 | 0 | 0 | 119 | 0 | 14 | 0 |
| Feb. | 1 | „ Ditto ditto ditto ..... | 45 | 0 | 0 | 89 | 0 | 10 | 6 |
| March | 2 | „ Ditto ditto ditto ..... | 45 | 0 | 0 | 60 | 0 | 7 | 1 |
| April | 2 | „ Ditto ditto ditto ..... | 45 | 0 | 0 | 29 | 0 | 3 | 5 |
| | | | 677 | 9 | 1 | | 22 | 15 | 10 |
| „ | 30 | „ Balance ..... | 13,001 | 4 | 10 | I. B. | 752 | 9 | 5 |
| | | Rupees.... | 13,678 | 13 | 11 | | 775 | 9 | 3 |

Bombay Castle,

ACCOUNTANT GENERAL'S OFFICE,

29*th September* 1849.

*with the Honorable Company* ——————— *Cr.*

| | | | Rs. | A. | P. | | Rs. | A. | P. |
|---|---|---|---|---|---|---|---|---|---|
| 1848 May | 1 | By. Balance ..... | 12,926 | 4 | 6 | 365 | 775 | 9 | 3 |
| 1849 April | 30 | „ Interest Balance @ 6 per Cent per annum ..... | 752 | 9 | 5 | | | | |
| | | Rupees.... | 13,678 | 13 | 11 | | 775 | 9 | 3 |

Errors Excepted,

(Signed.) E. E. ELLIOT,

*Accountant General.*

*Dr.* ——— *FARISH Scholarship in Account Current*

| 1848 | | | Rs. | A. | P. | | Rs. | A. | P. |
|---|---|---|---|---|---|---|---|---|---|
| June | 23 | To Cash paid to C. Morehead, Esq. being the amount of Anunta Chundraba's pay from 16th April to 31st May last..... | 22 | 8 | 0 | 312 | 1 | 2 | 5 |
| „ | „ | „ Ditto ditto of Narayan Dajee's pay from ditto to ditto ..... | 22 | 8 | 0 | 312 | 1 | 2 | 5 |
| July | 4 | „ Ditto ditto on account of the Scholarship ..... | 30 | 0 | 0 | 301 | 1 | 7 | 8 |
| Aug. | 1 | „ Ditto ditto on account of ditto .. | 30 | 0 | 0 | 273 | 1 | 5 | 6 |
| „ | 8 | „ Ditto to H. Carter, Esq. Officiating Secretary Board of Education on account of the Scholarship as per Government order dated 13th ultimo ..... | 150 | 1 | 1 | 266 | 6 | 8 | 11 |
| Sept. | 2 | „ Ditto to C. Morehead Esq. Supt. Grant Medical College on account of the Scholarship ..... | 30 | 0 | 0 | 241 | 1 | 3 | 0 |
| Oct. | 2 | „ Ditto on account of ditto ..... | 30 | 0 | 0 | 211 | 1 | 0 | 7 |
| Nov. | 1 | „ Ditto ditto ditto ..... | 30 | 0 | 0 | 181 | 0 | 14 | 3 |
| Dec. | 2 | „ Ditto ditto ditto ..... | 30 | 0 | 0 | 150 | 0 | 11 | 10 |
| 1849 | | | | | | | | | |
| Jan. | 2 | „ Ditto ditto ditto ..... | 30 | 0 | 0 | 119 | 0 | 9 | 4 |
| Feb. | 1 | „ Ditto ditto ditto ..... | 30 | 0 | 0 | 89 | 0 | 7 | 0 |
| March | 2 | „ Ditto ditto ditto ..... | 30 | 0 | 0 | 60 | 0 | 4 | 9 |
| April | 2 | „ Ditto ditto ditto ..... | 30 | 0 | 0 | 29 | 0 | 2 | 3 |
| | | | 495 | 1 | 1 | | 16 | 15 | 11 |
| „ | 30 | „ Balance ..... | 11,889 | 11 | 1 | I. B. | 684 | 15 | 10 |
| | | Rupees.... | 12,384 | 12 | 2 | | 701 | 15 | 9 |

Bombay Castle,

ACCOUNTANT GENERAL'S OFFICE,

*29th September* 1849.

*with the Honorable Company.* ——————— *Cr.*

| 1848 May 1849 April | | | Rs. | A. | P. | | Rs. | A. | P. |
|---|---|---|---|---|---|---|---|---|---|
| | 1 | By Balance..... | 11,699 | 12 | 4 | 365 | 701 | 15 | 9 |
| | 30 | „ Interest Balance @ 6 per Cent per annum ..... | 684 | 15 | 10 | | | | |
| | | Rupees.... | 12,384 | 12 | 2 | | 701 | 15 | 9 |

Errors Excepted,

(Signed.) E. E. ELLIOT,

*Accountant General.*

*Dr.* ——— *CARNAC Scholarship in Account Current*

| 1848 | | | Rs. | A. | P. | | Rs. | A. | P. |
|---|---|---|---|---|---|---|---|---|---|
| May | 2 | To Cash paid to C. Morehead, Esq. Superintendent Grant Medical College being amount of S. A. D. Carvalho's pay for last month ..... | 30 | 0 | 0 | 364 | 1 | 12 | 10 |
| June | 1 | „ Ditto ditto ditto .... | 30 | 0 | 0 | 334 | 1 | 10 | 4 |
| „ | 23 | „ Ditto ditto being the amount of Merwanjee Sorabjee's pay from 16th April to 31st May last ..... | 30 | 0 | 0 | 312 | 1 | 8 | 7 |
| July | 4 | „ Ditto ditto on account of Scholarship ..... | 50 | 0 | 0 | 301 | 2 | 7 | 6 |
| Aug. | 1 | „ Ditto ditto ditto .... | 50 | 0 | 0 | 273 | 2 | 3 | 10 |
| „ | 8 | „ Ditto H. Carter, Esq. Officiating Secretary Board of Education on account of the Scholarship as per Government order dated 13th ultimo ..... | 150 | 1 | 1 | 266 | 6 | 8 | 11 |
| Sept. | 2 | „ Ditto to C. Morehead, Esq. on account of Scholarship ..... | 50 | 0 | 0 | 241 | 1 | 15 | 9 |
| Oct. | 2 | „ Ditto ditto ditto .... | 50 | 0 | 0 | 211 | 1 | 11 | 8 |
| Nov. | 1 | „ Ditto ditto ditto .... | 50 | 0 | 0 | 181 | 1 | 7 | 9 |
| Dec. | 2 | „ Ditto ditto ditto .... | 50 | 0 | 0 | 150 | 1 | 3 | 8 |
| 1849 | | | | | | | | | |
| Jan. | 2 | „ Ditto ditto ditto .... | 50 | 0 | 0 | 119 | 0 | 15 | 7 |
| Feb. | 1 | „ Ditto ditto ditto .... | 50 | 0 | 0 | 89 | 0 | 11 | 8 |
| March | 2 | „ Ditto ditto ditto .... | 50 | 0 | 0 | 60 | 0 | 7 | 11 |
| April | 2 | „ Ditto ditto ditto .... | 50 | 0 | 0 | 29 | 0 | 3 | 9 |
| | | | 740 | 1 | 1 | | 25 | 1 | 9 |
| „ | 30 | „ Balance ..... | 11,476 | 7 | 1 | I. B. | 667 | 12 | 11 |
| | | Rupees.... | 12,216 | 8 | 2 | | 692 | 14 | 8 |

Bombay Castle,

ACCOUNTANT GENERAL'S OFFICE.

29th September 1849.

Errors Excepted,

(Signed.) E. E. ELLIOT,

*Accountant General.*

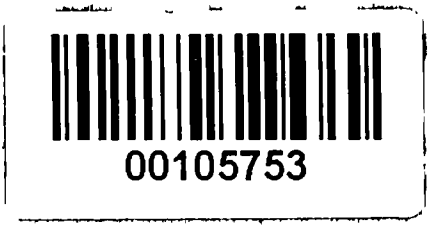
*with the Honorable Company* ——————————— *Cr.*

| | | | Rs. | A. | P. | | Rs. | A. | P. |
|---|---|---|---|---|---|---|---|---|---|
| 1848 May | 1 | By Balance..... | 11,548 | 11 | 3 | | 692 | 14 | 8 |
| 1849 April | 30 | „ Interest Balance @ 6 per Cent per annum ..... | 667 | 12 | 11 | | | | |
| | | Rupees.... | 12,216 | 8 | 2 | | 692 | 14 | 8 |

(TRUE COPIES)

(Signed) HENRY J. CARTER.

*Officiating Secretary.*


00105753

Digitized with financial assistance from the
Government of Maharashtra
on 02 January, 2016